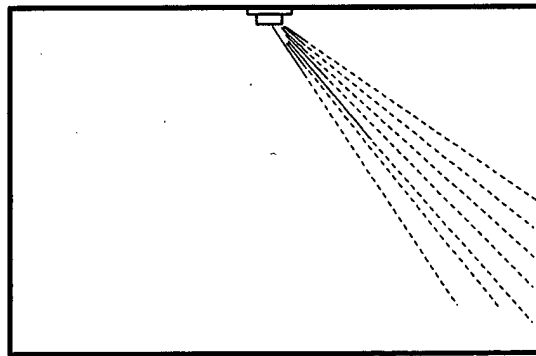
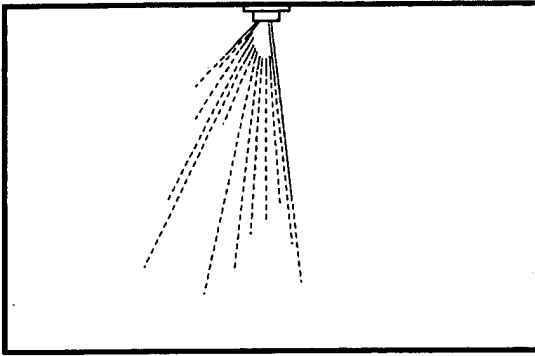


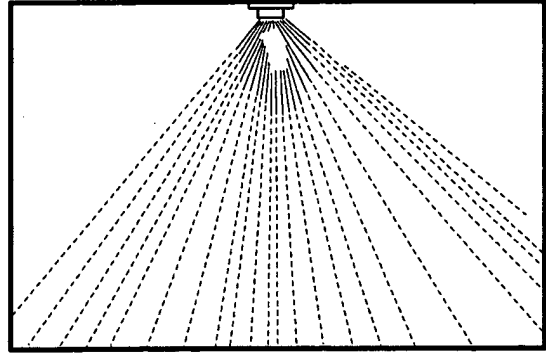
**FIG. 3A**



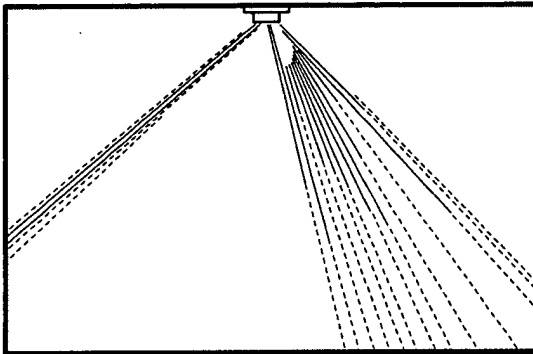
**FIG. 3B**



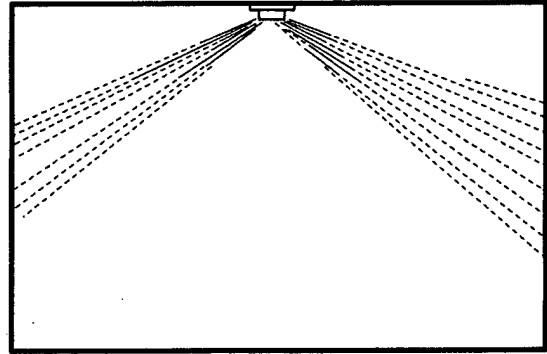
**FIG. 3C**



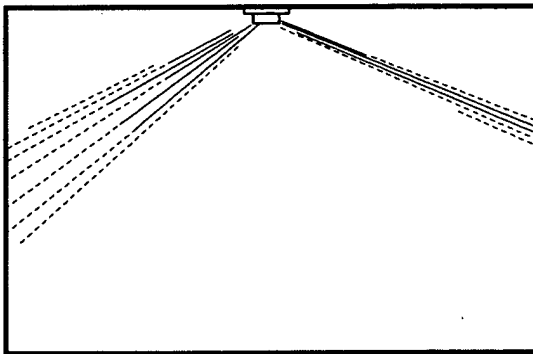
**FIG. 3D**



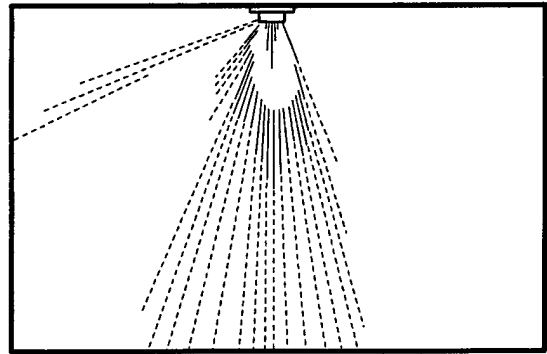
**FIG. 3E**



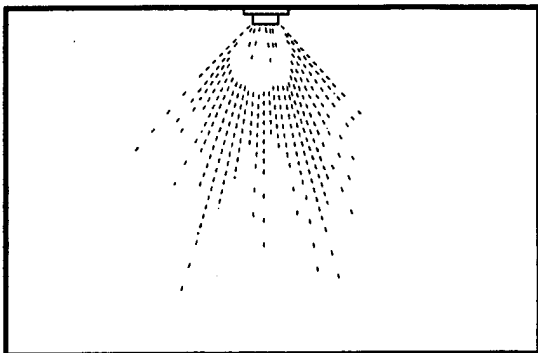
**FIG. 3F**



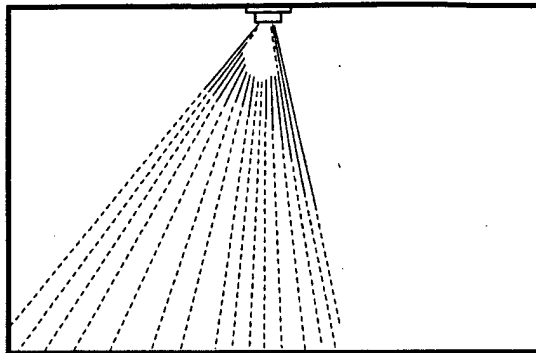
**FIG. 3G**



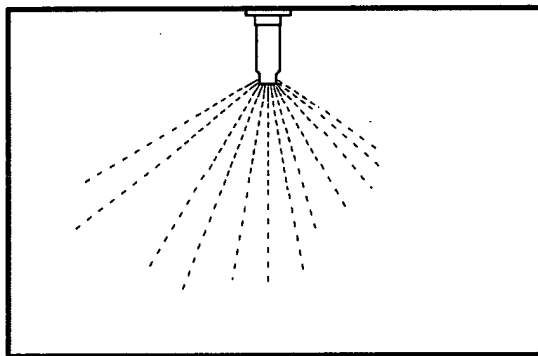
**FIG. 3H**



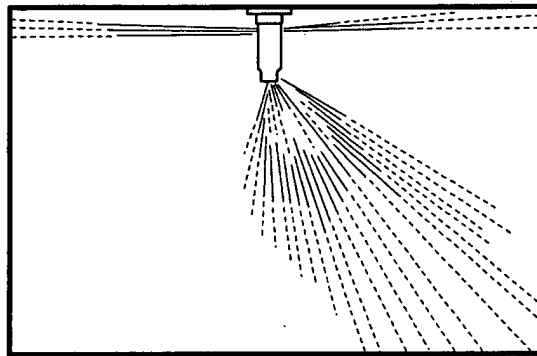
**FIG. 3I**



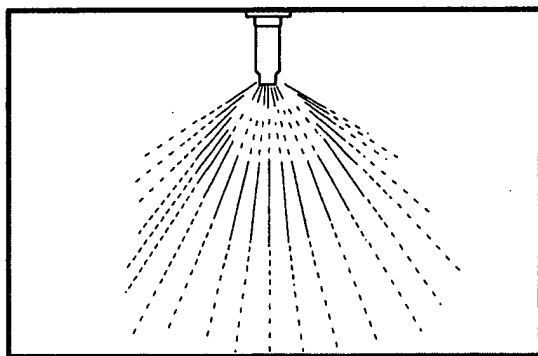
**FIG. 3J**



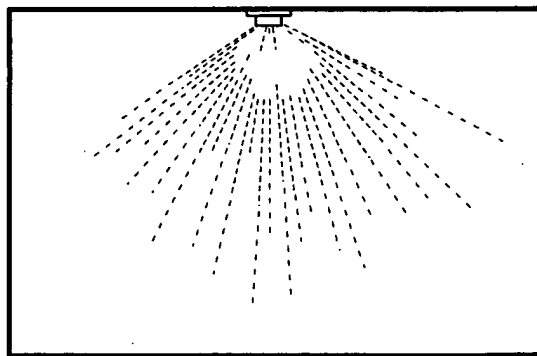
**FIG. 3K**



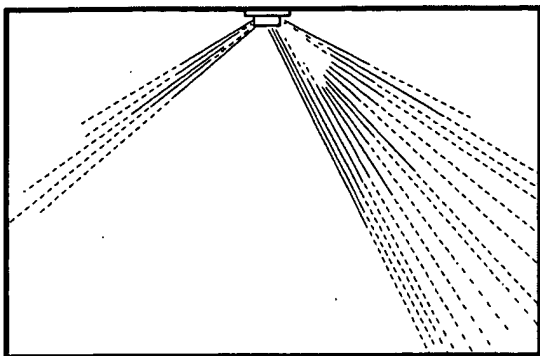
**FIG. 3L**



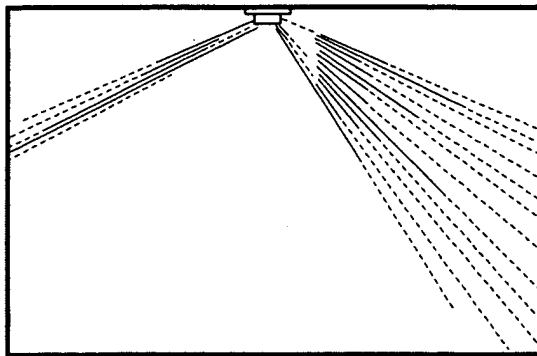
**FIG. 3M**



**FIG. 3N**

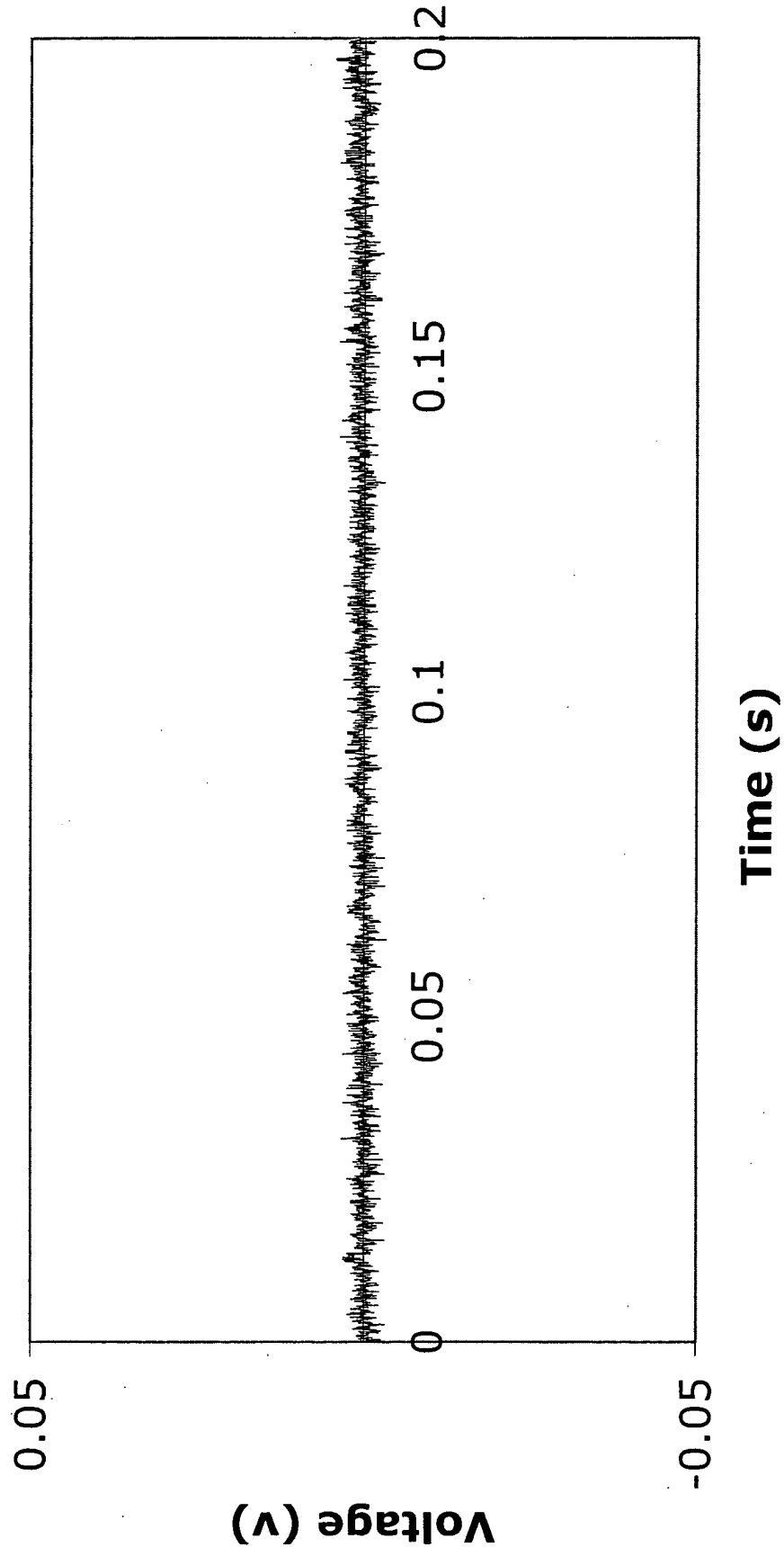


**FIG. 30**



**FIG. 3P**

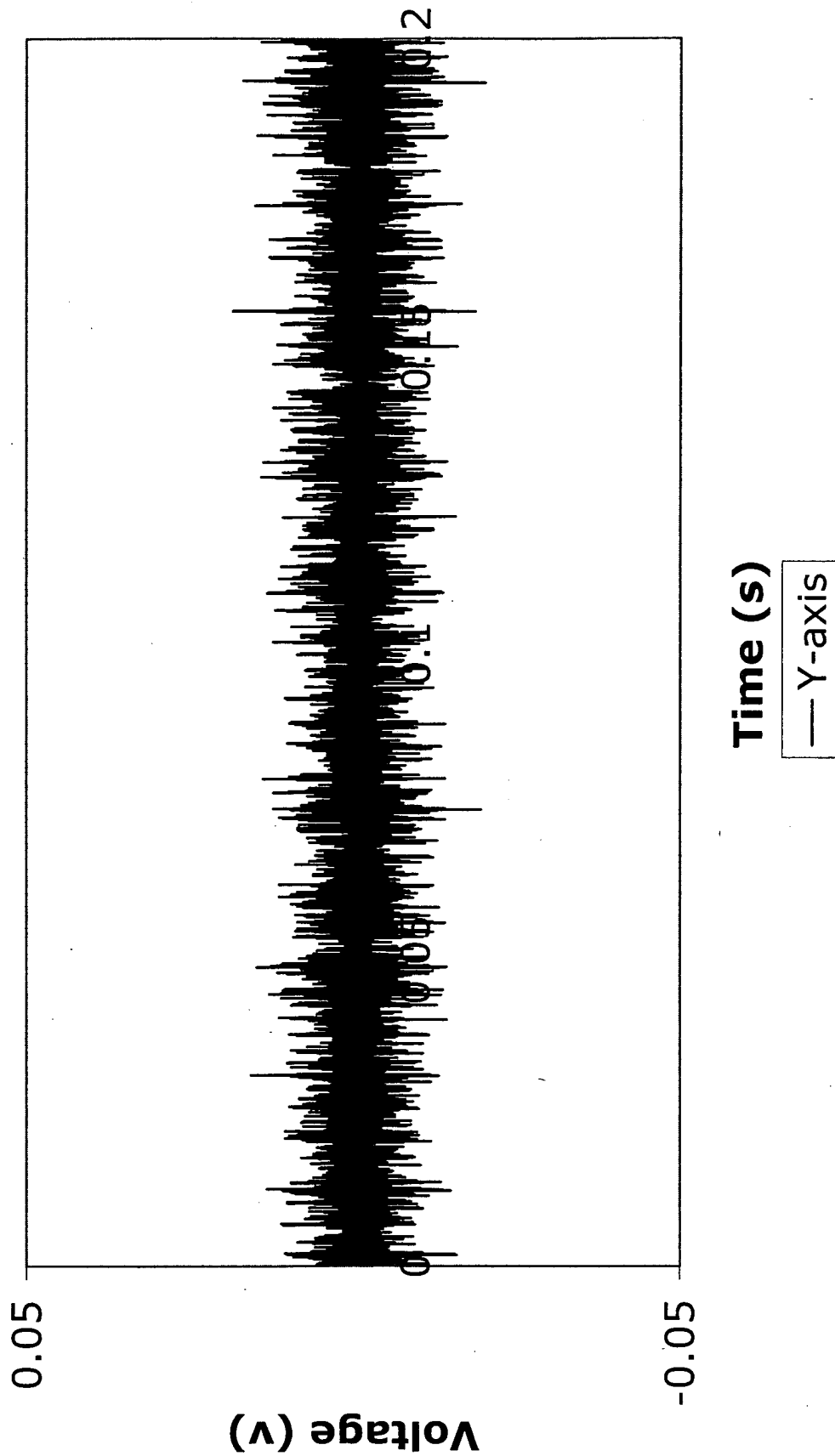
# 8001 nozzle at 300 kPa



— X-axis

Figure 4A

# 8001 nozzle at 300 kPa



Time (s)

— Y-axis

Figure 4B

# 8001 nozzle at 300 kPa

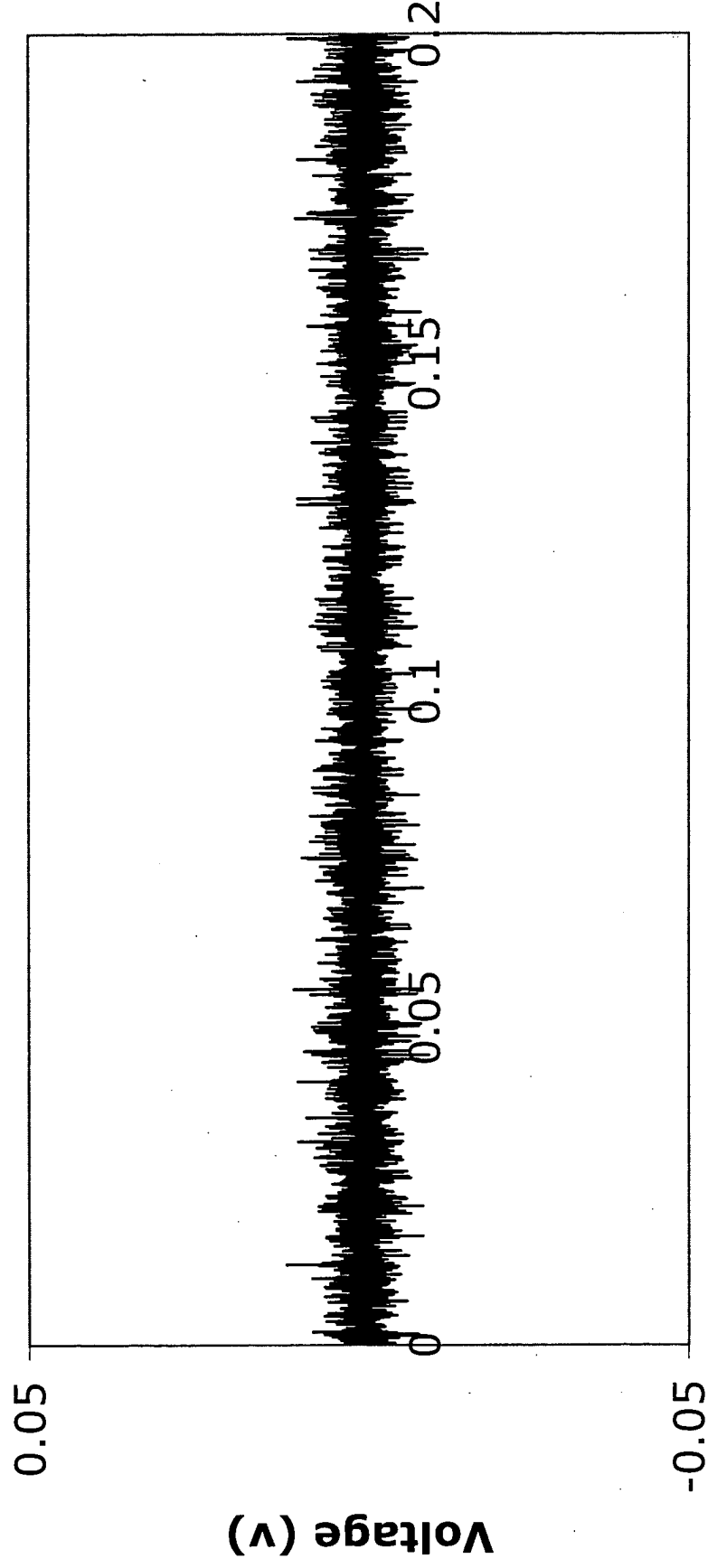
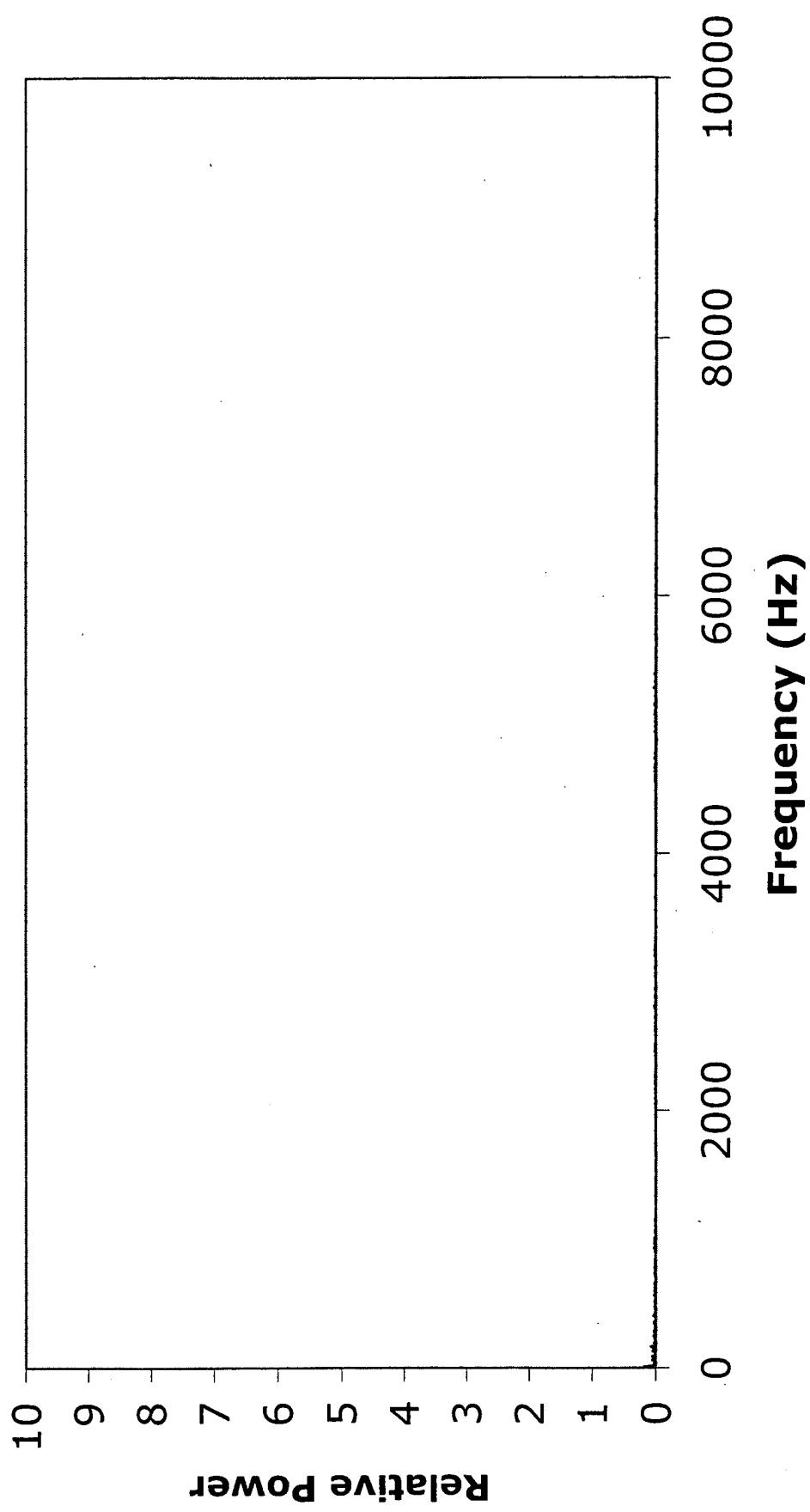


Figure 4C



# 8001 nozzle 300 kPa



— X axis

Figure 4D

# 8001 nozzle 300 kPa

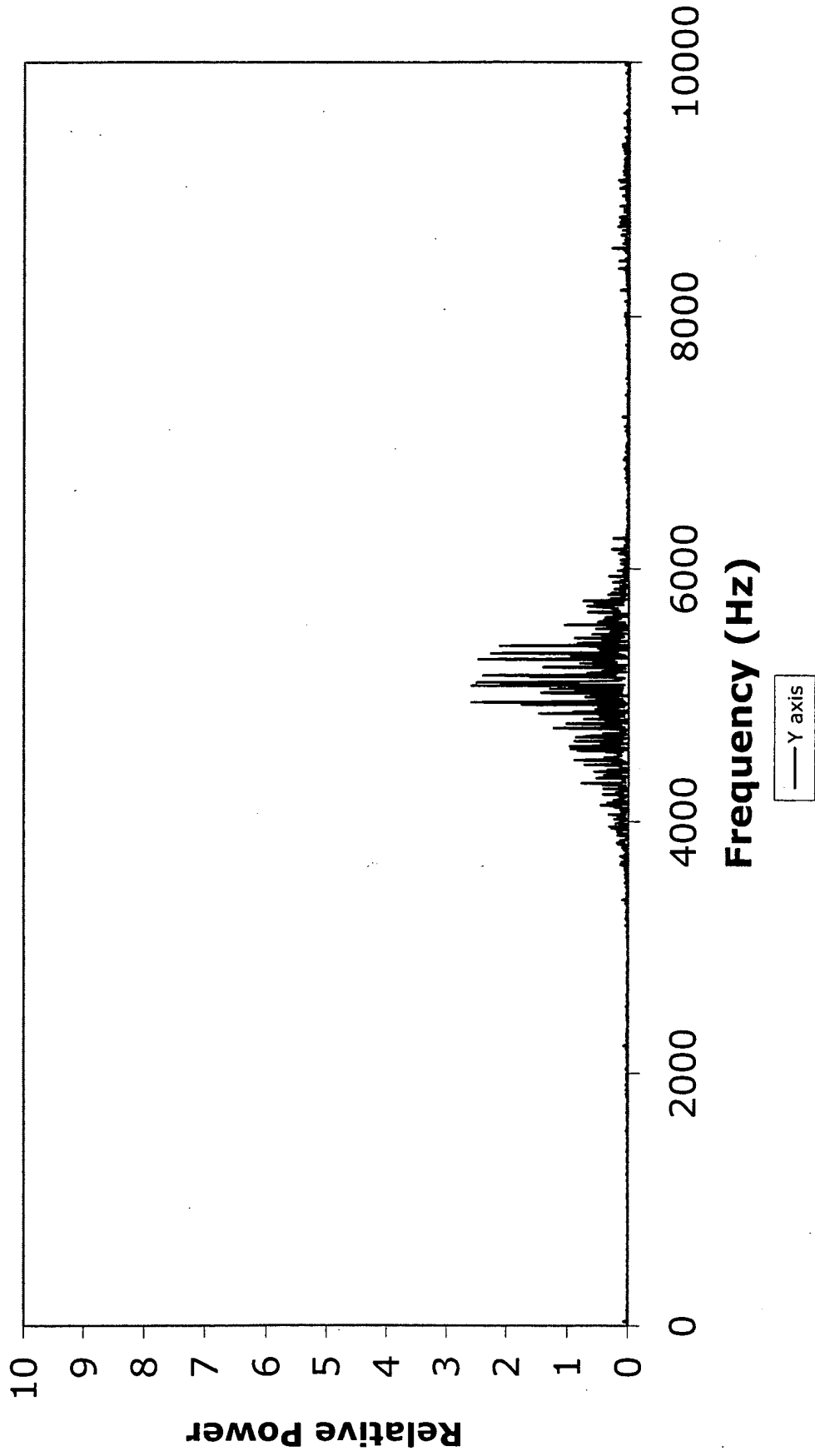
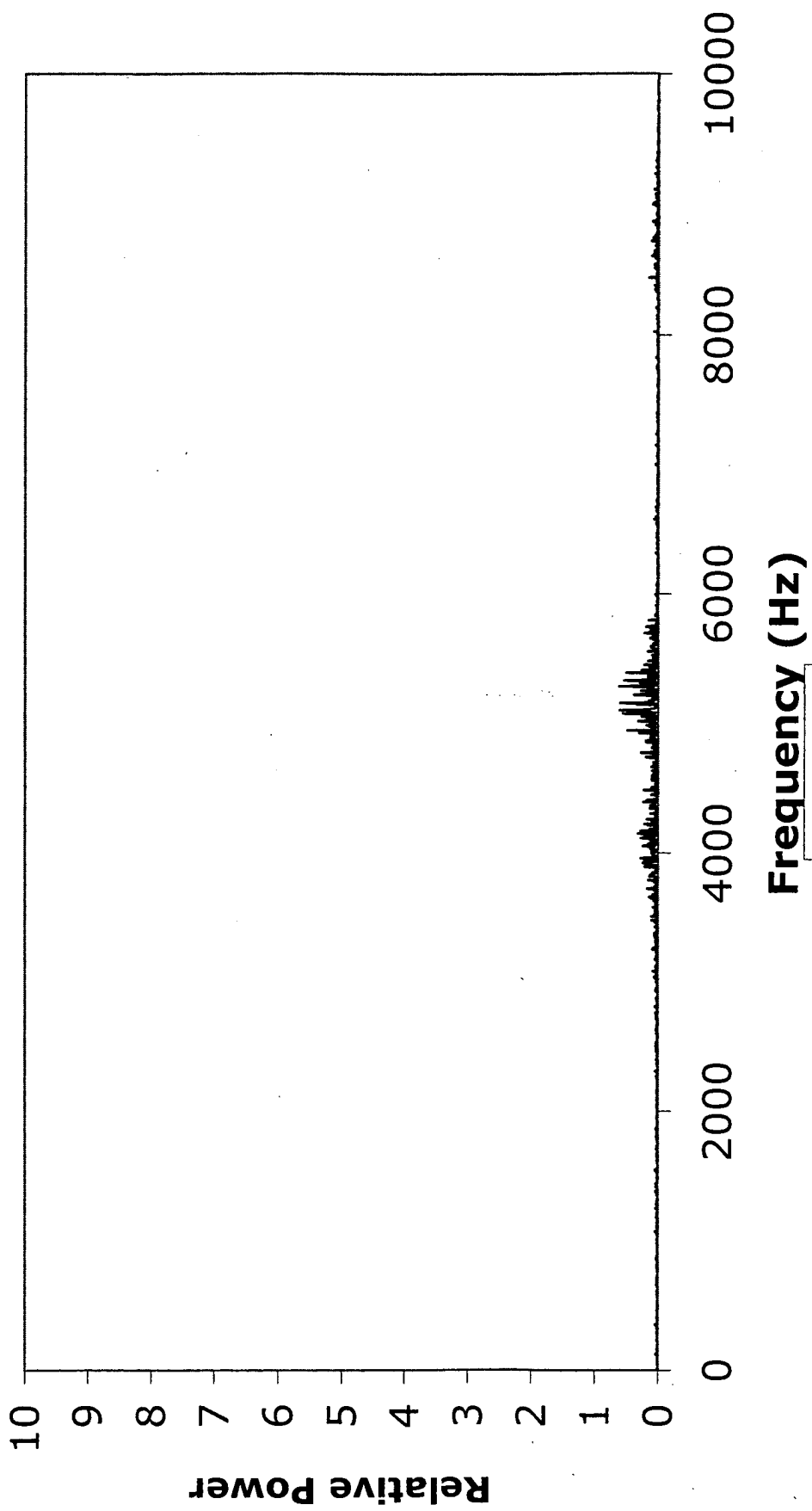


Figure 4E

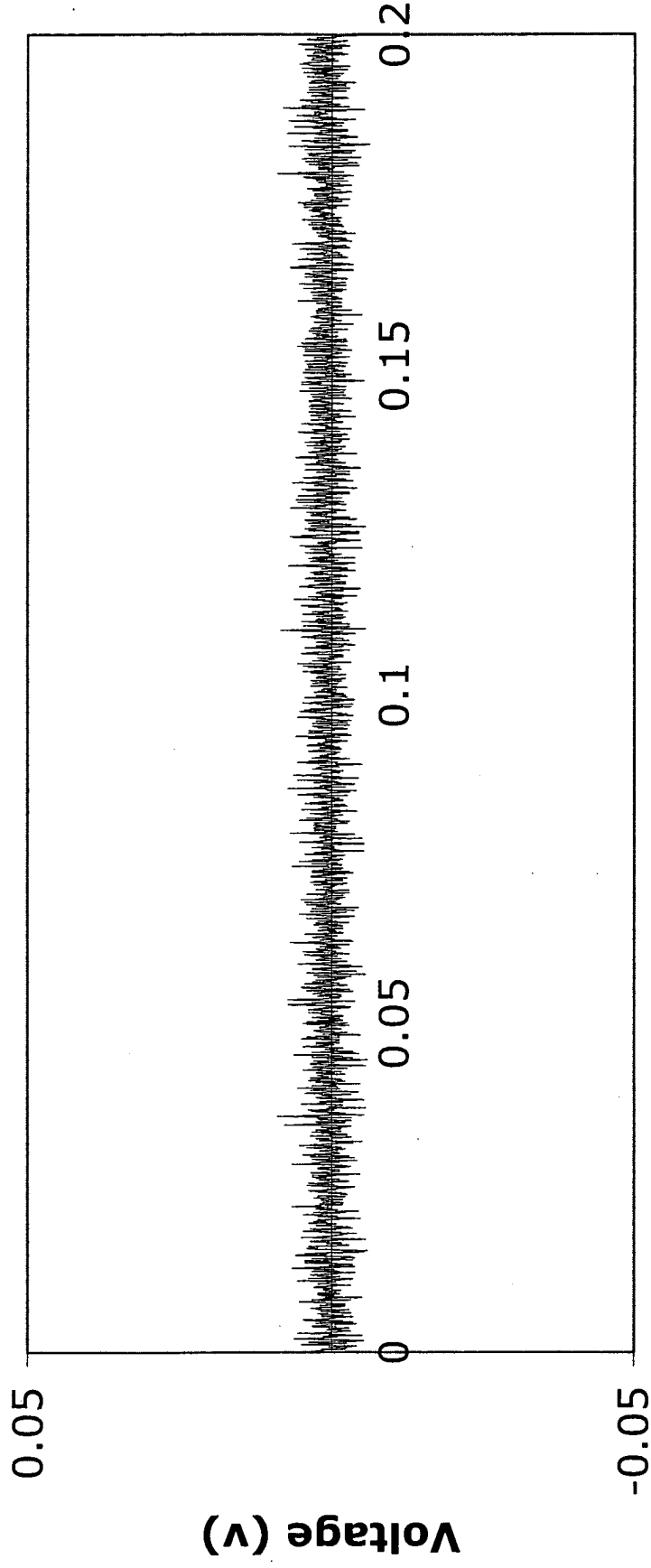
# 8001 nozzle 300 kPa



— Z axis

Figure 4F

# 8004 nozzle at 300 kPa

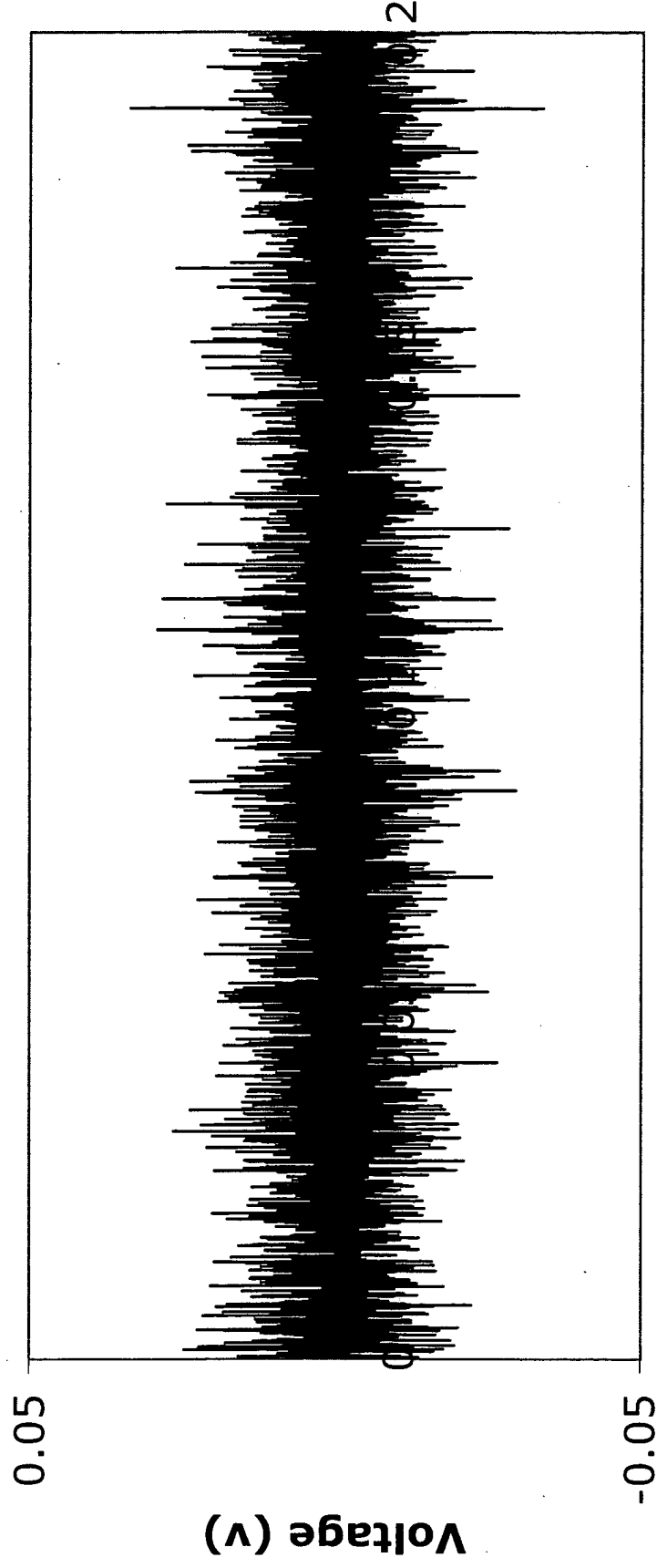


Time (s)

— X-axis

Figure 4G

# 8004 nozzle at 300 kPa

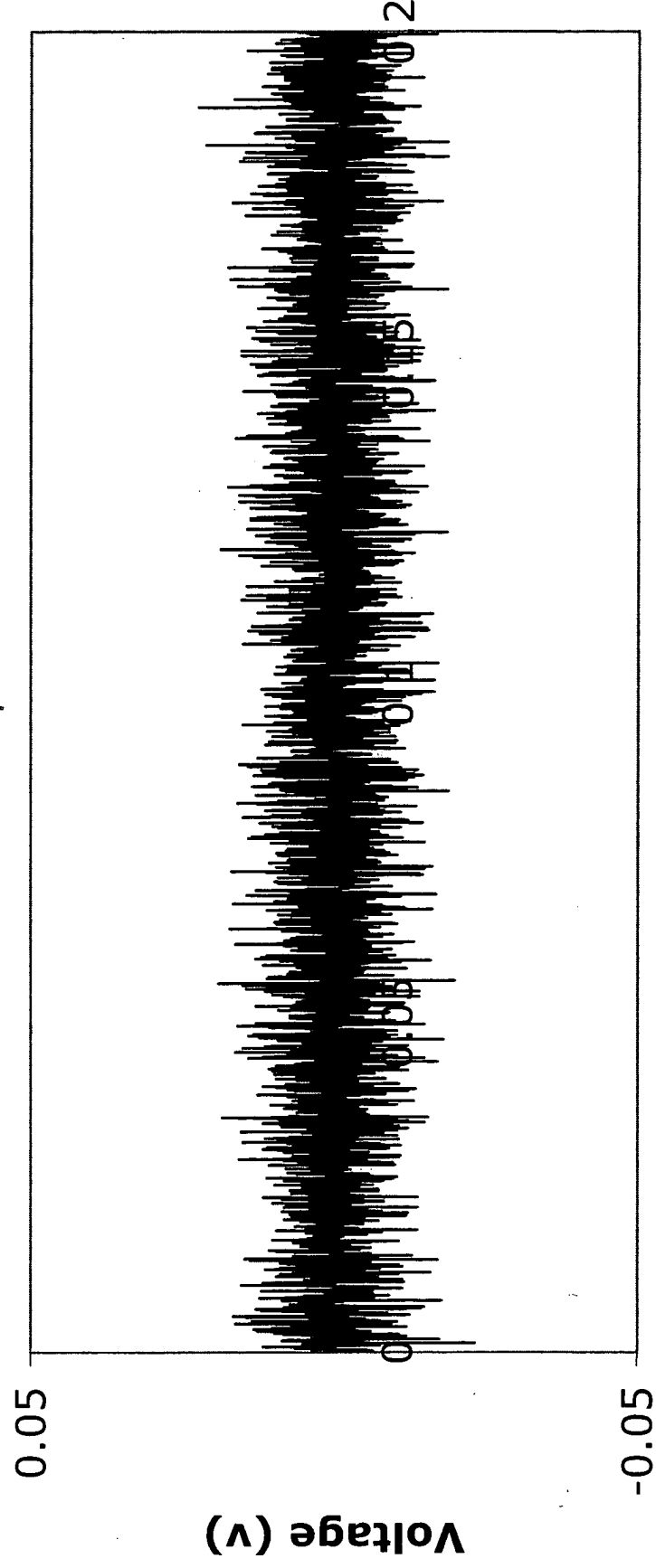


Time (s)

— Y-axis

Figure 4H

# 8004 nozzle at 300 kPa

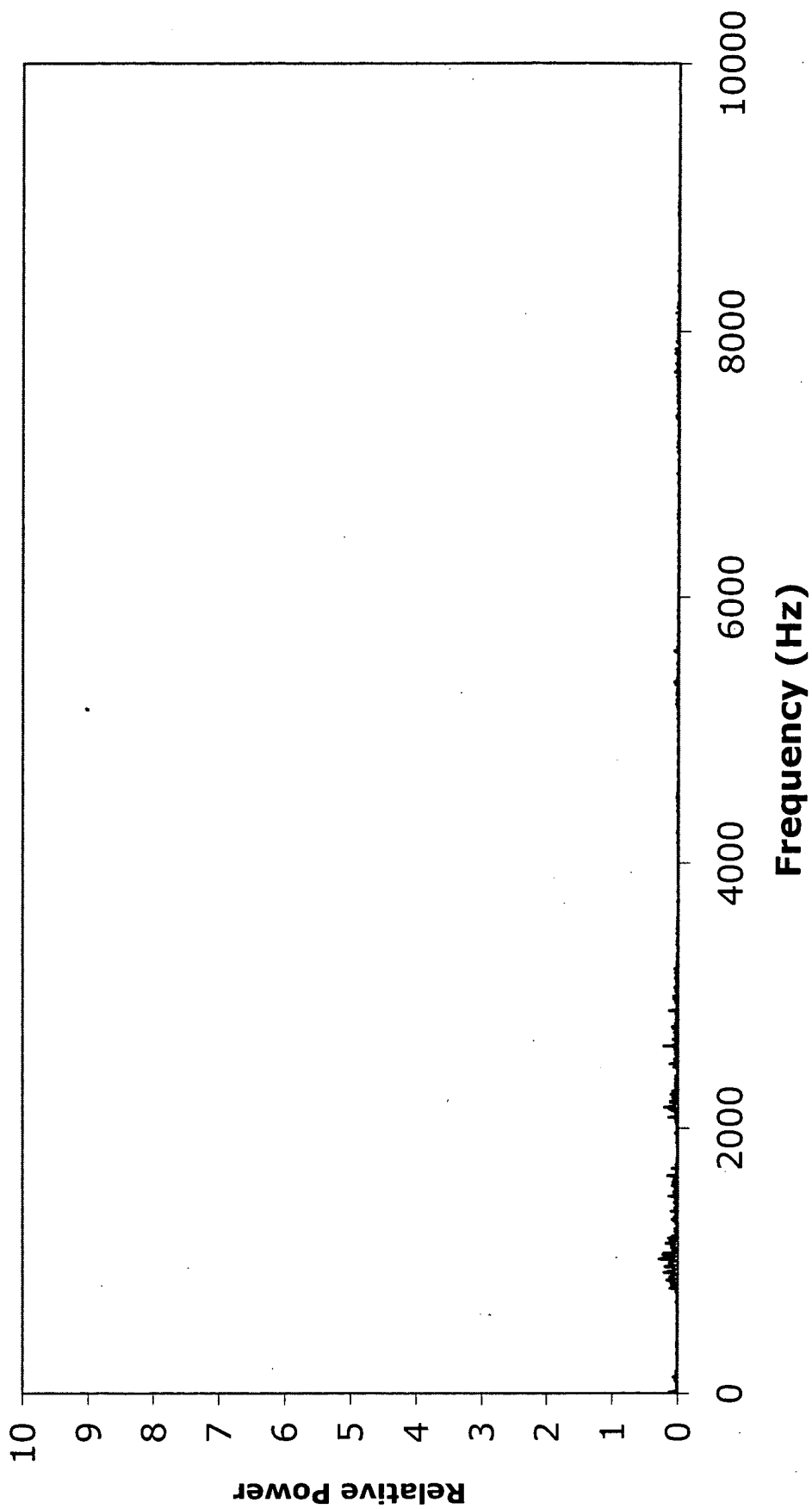


Time (s)

— Z-axis

Figure 4I

# 8004 nozzle at 300 kPa



— X axis

Figure 4J

# 8004 nozzle at 300 kPa

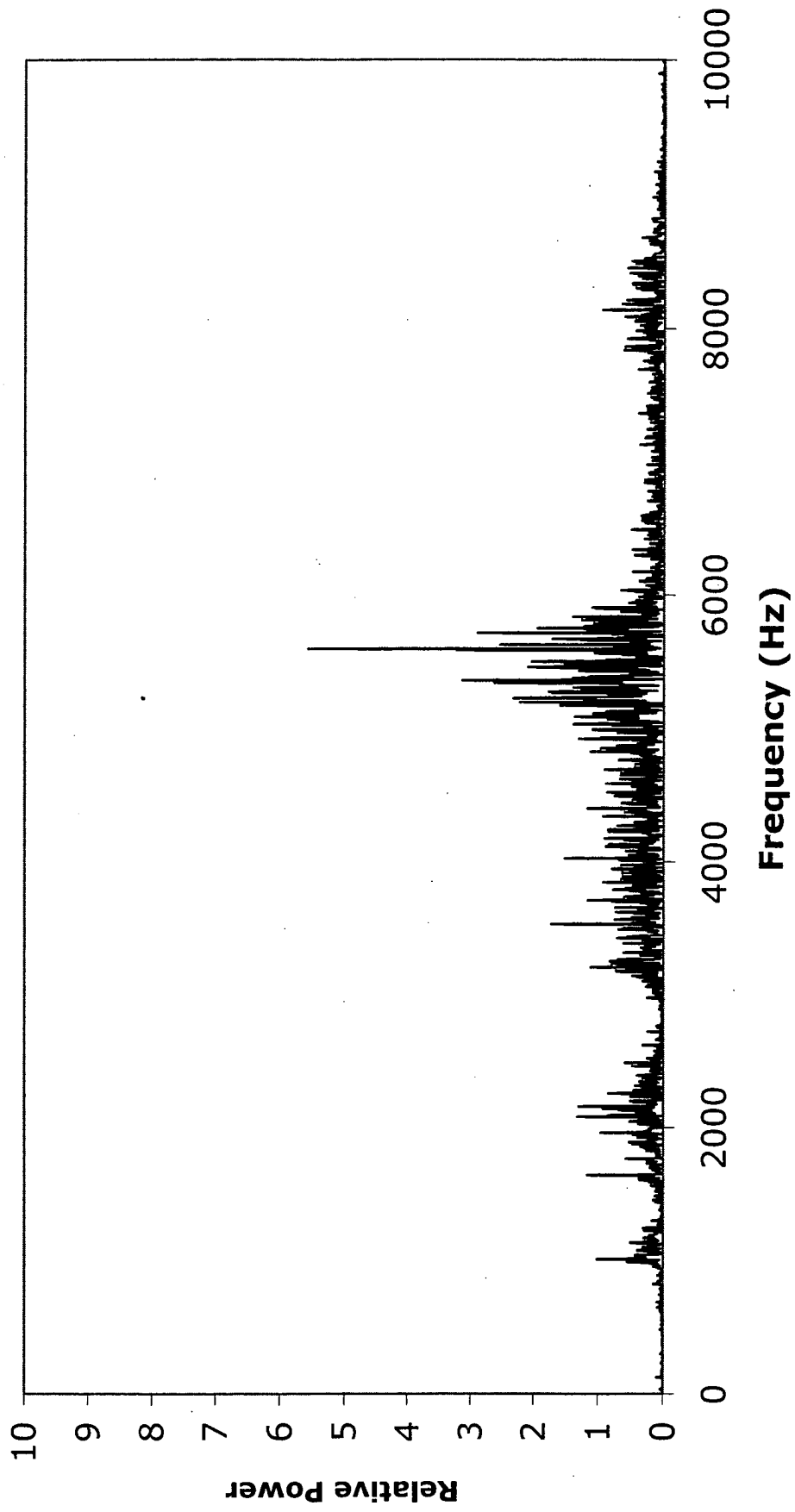


Figure 4K



# 8004 nozzle at 300 kPa

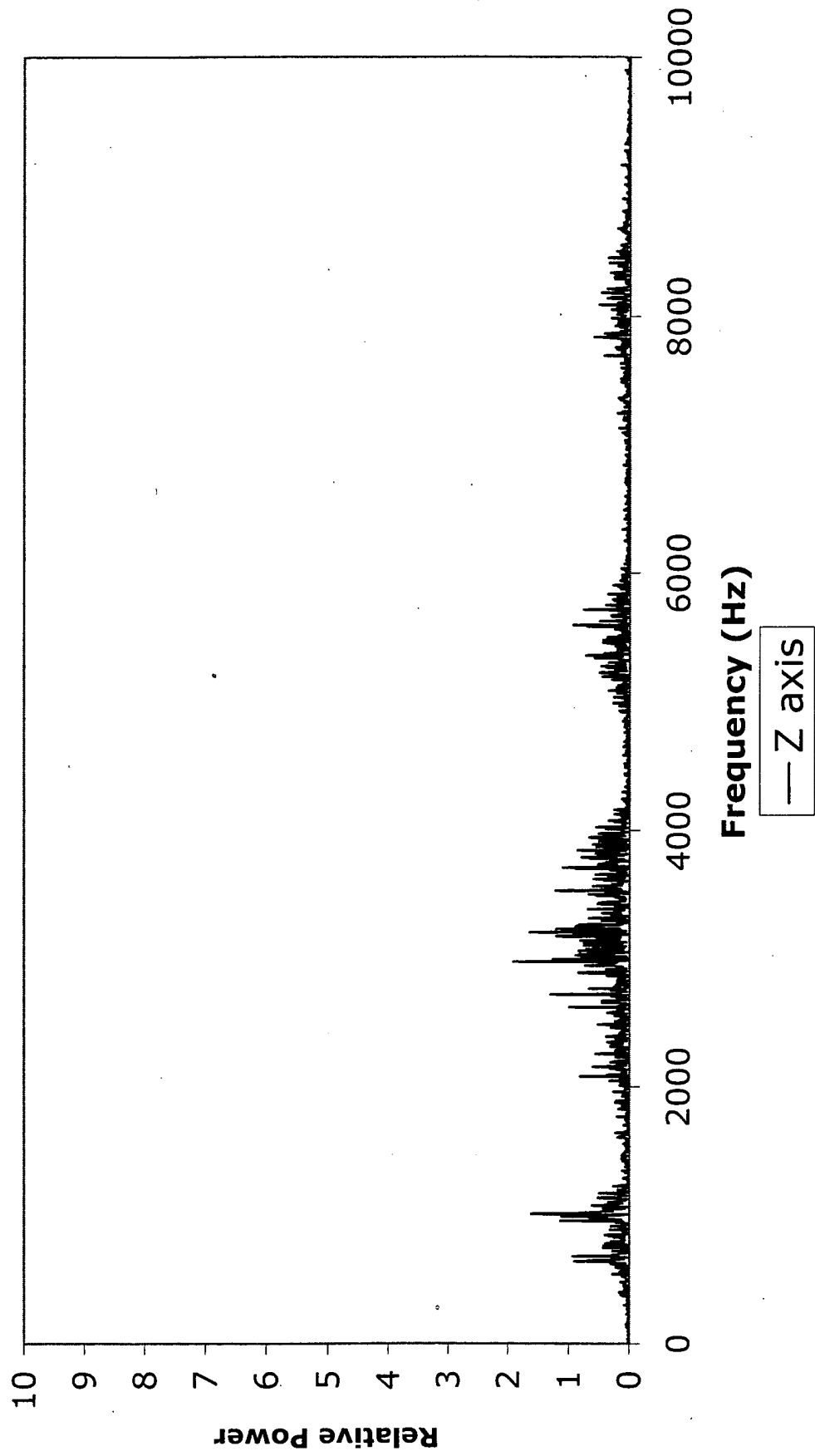
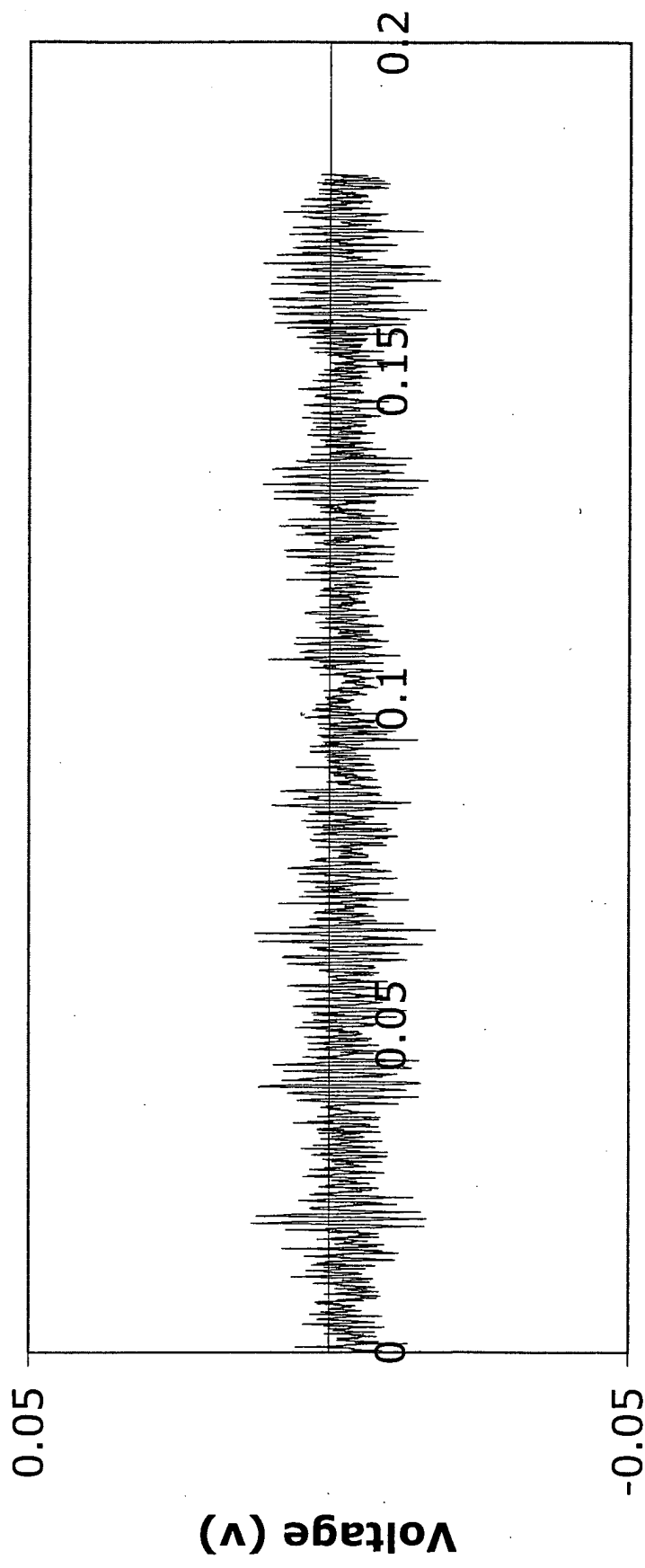


Figure 4L

# 8008 nozzle at 300 kPa

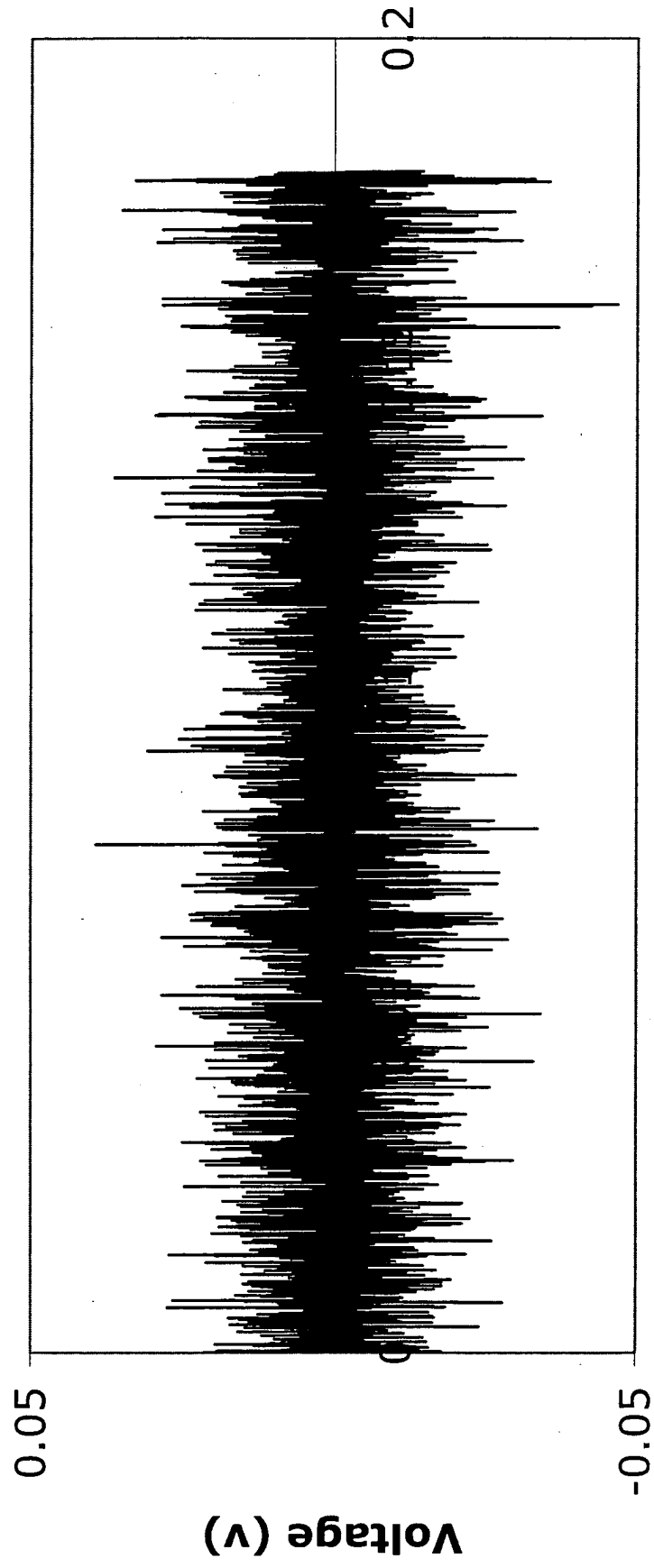


Time (s)

— X-axis

Figure 4M

# 8008 nozzle at 300 kPa

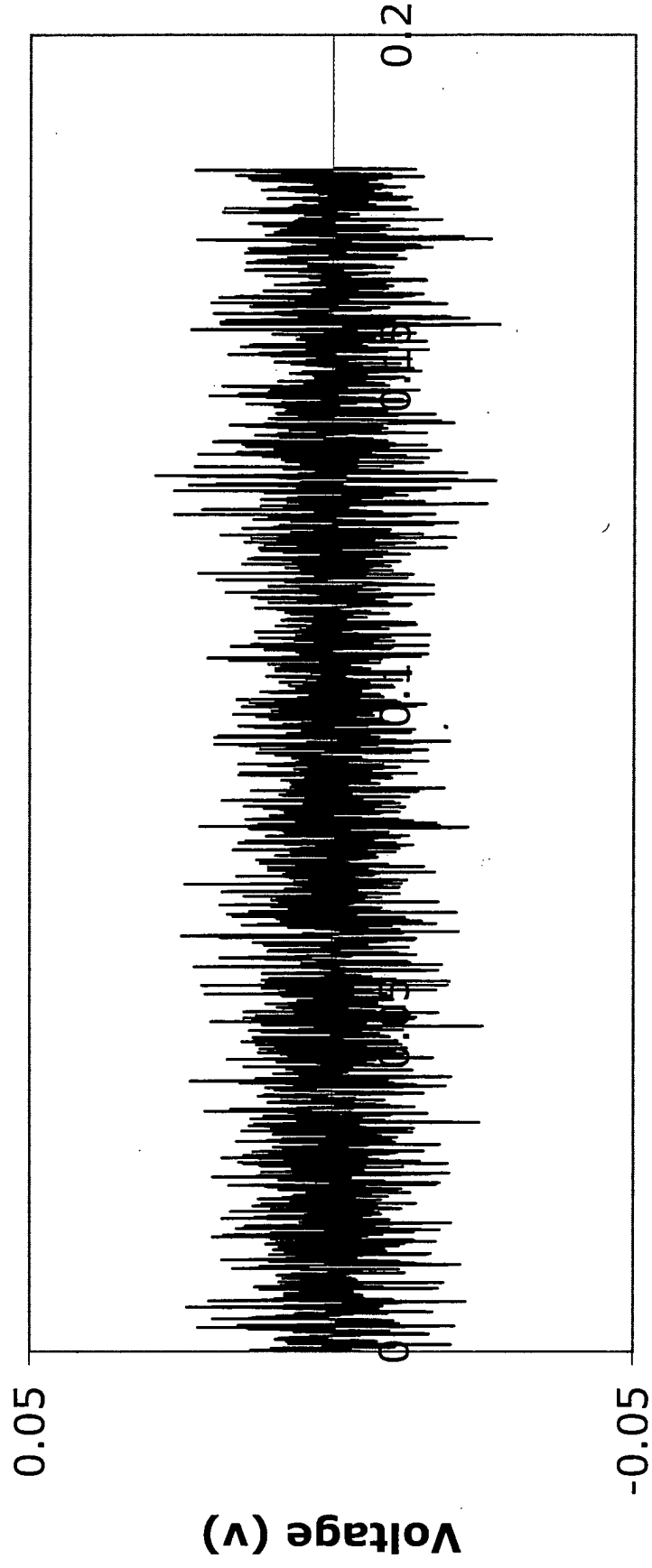


Time (s)

— Y-axis

Figure 4N

# 8008 nozzle at 300 kPa



Time (s)

— Z-axis

Figure 40

# 8008 nozzle 300 kPa

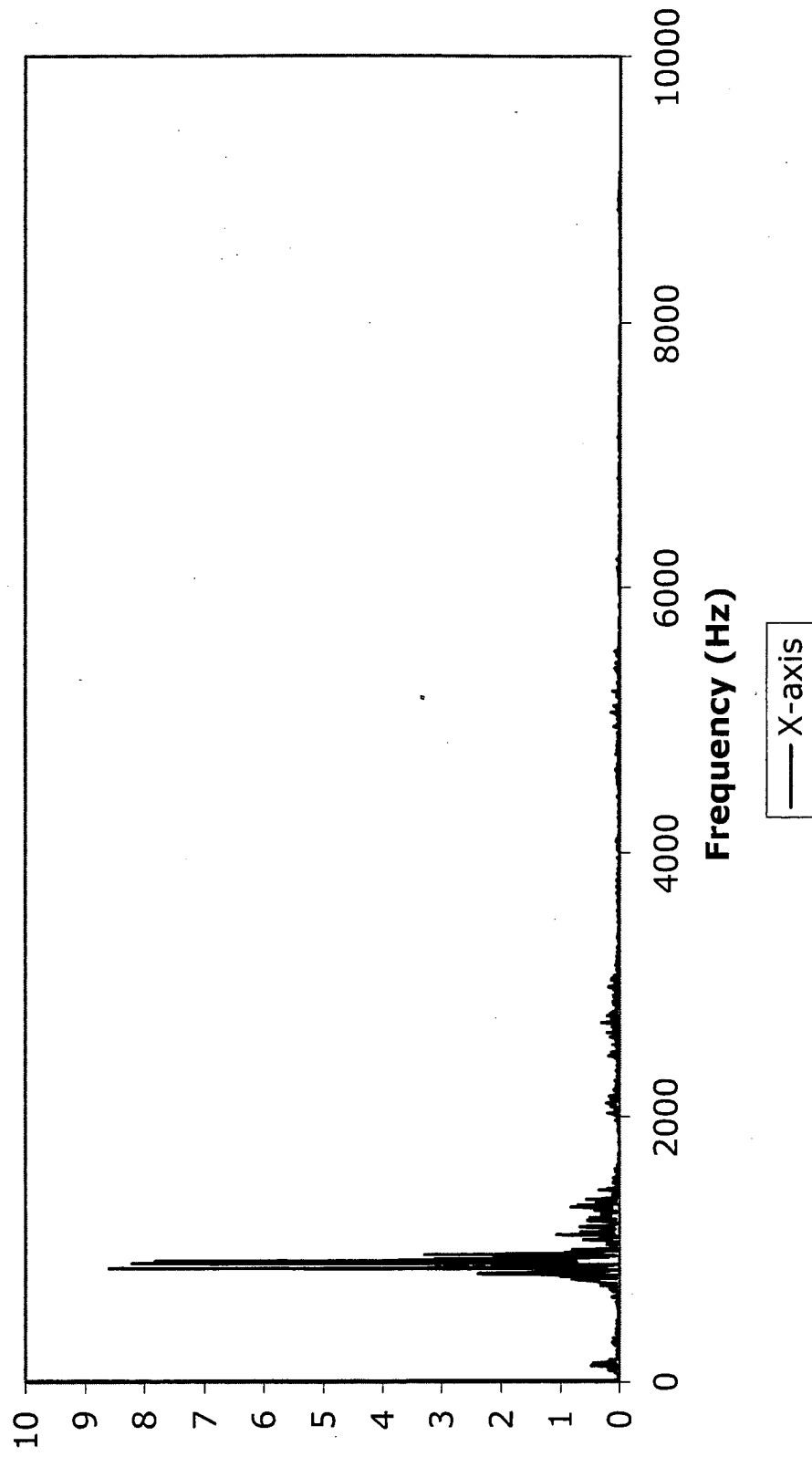
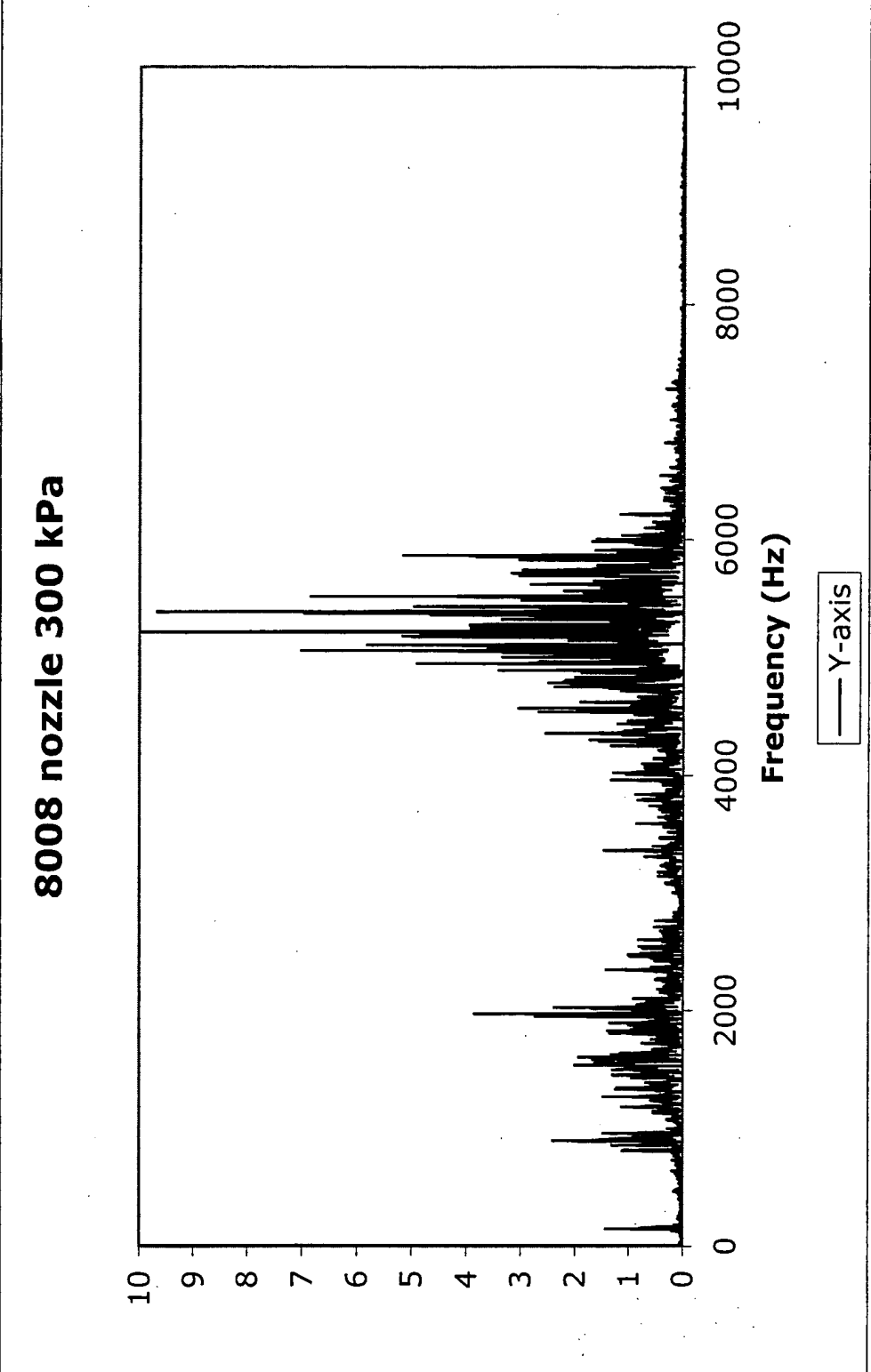
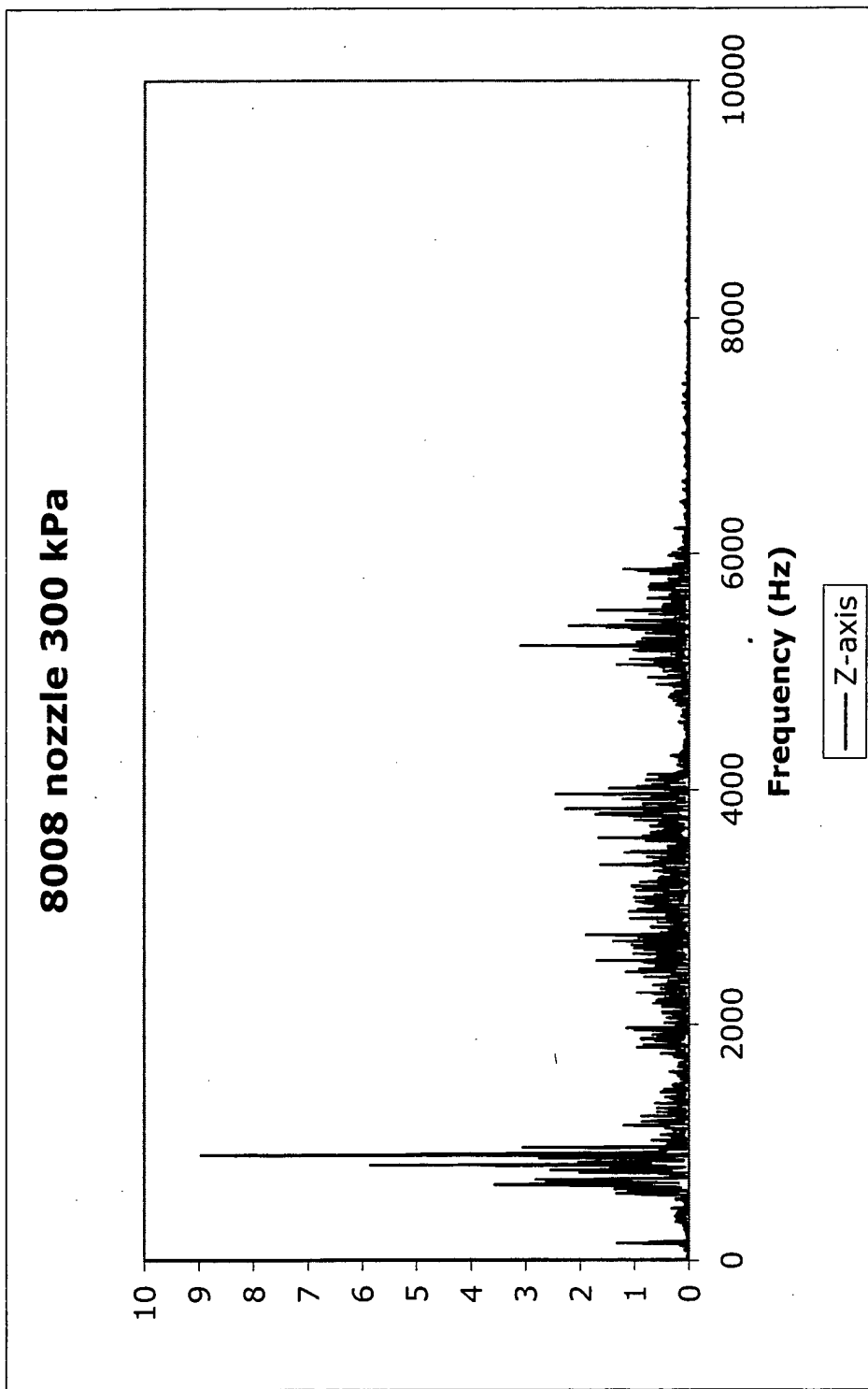


Figure 4P



**Figure 4Q**



**Figure 4R**

# 8001 nozzle 300 kPa

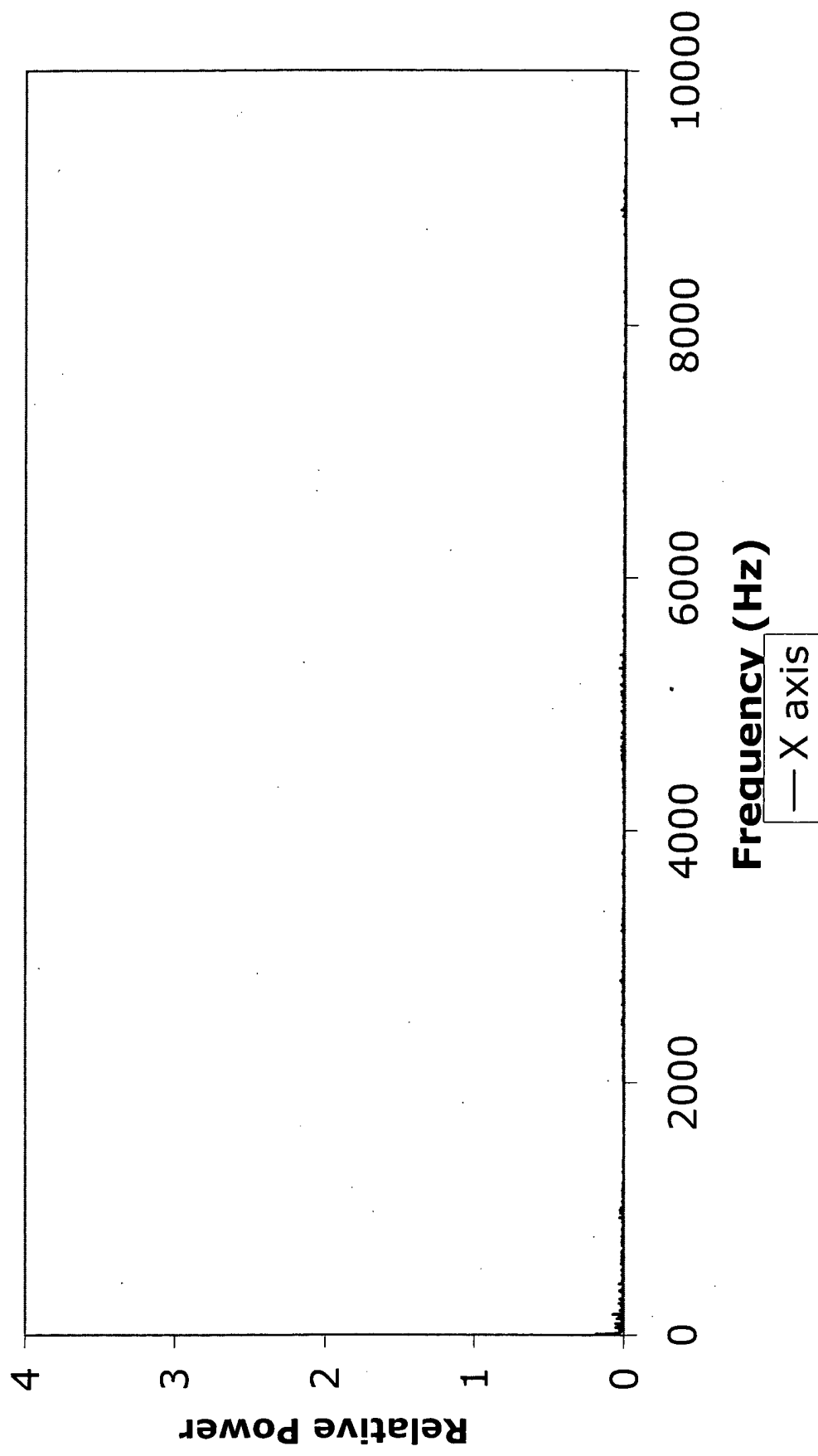
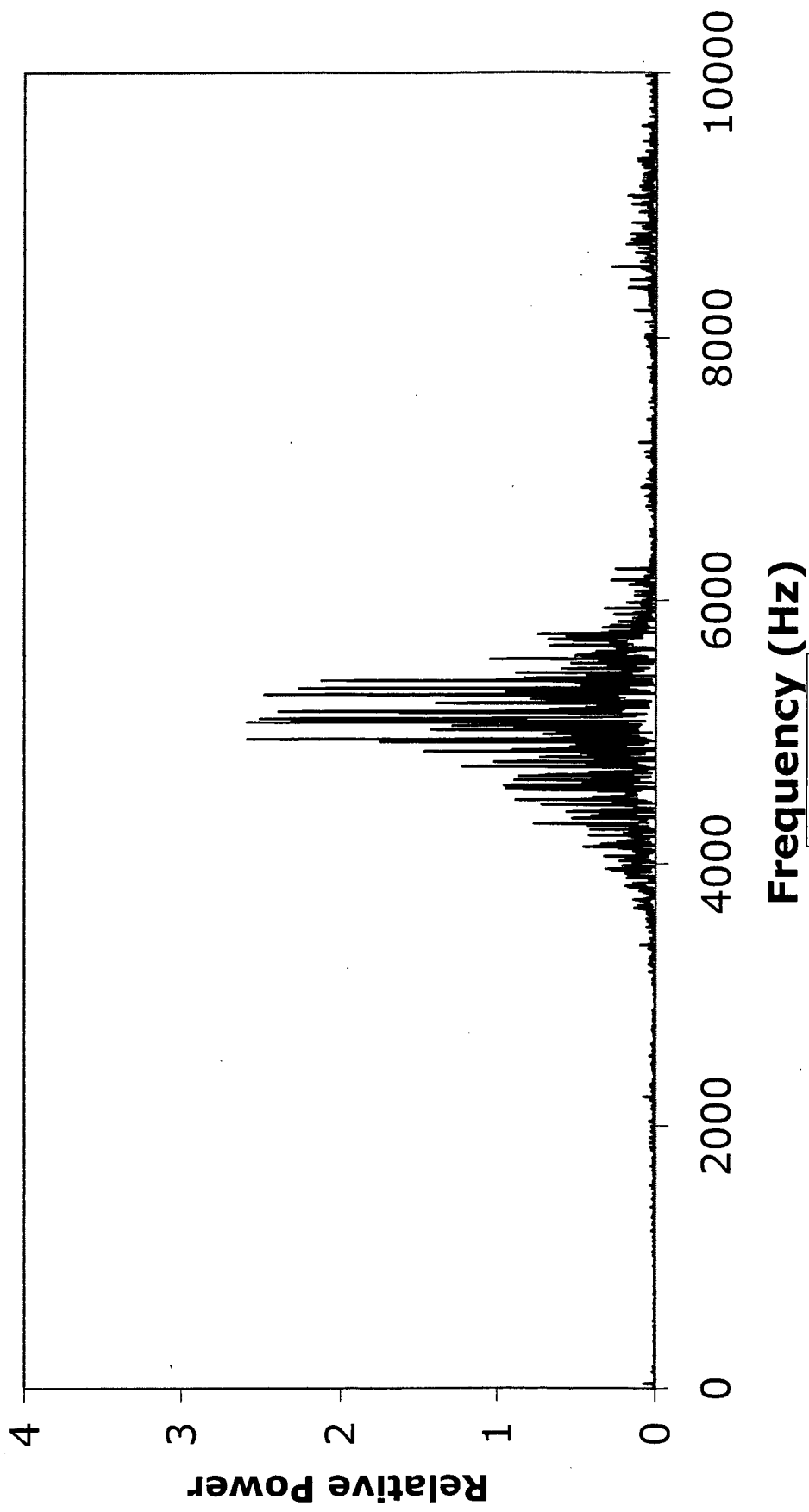


Figure 5A



# 8001 nozzle 300 kPa



— Y axis

Figure 5B

# 8001 nozzle at 300 kPa

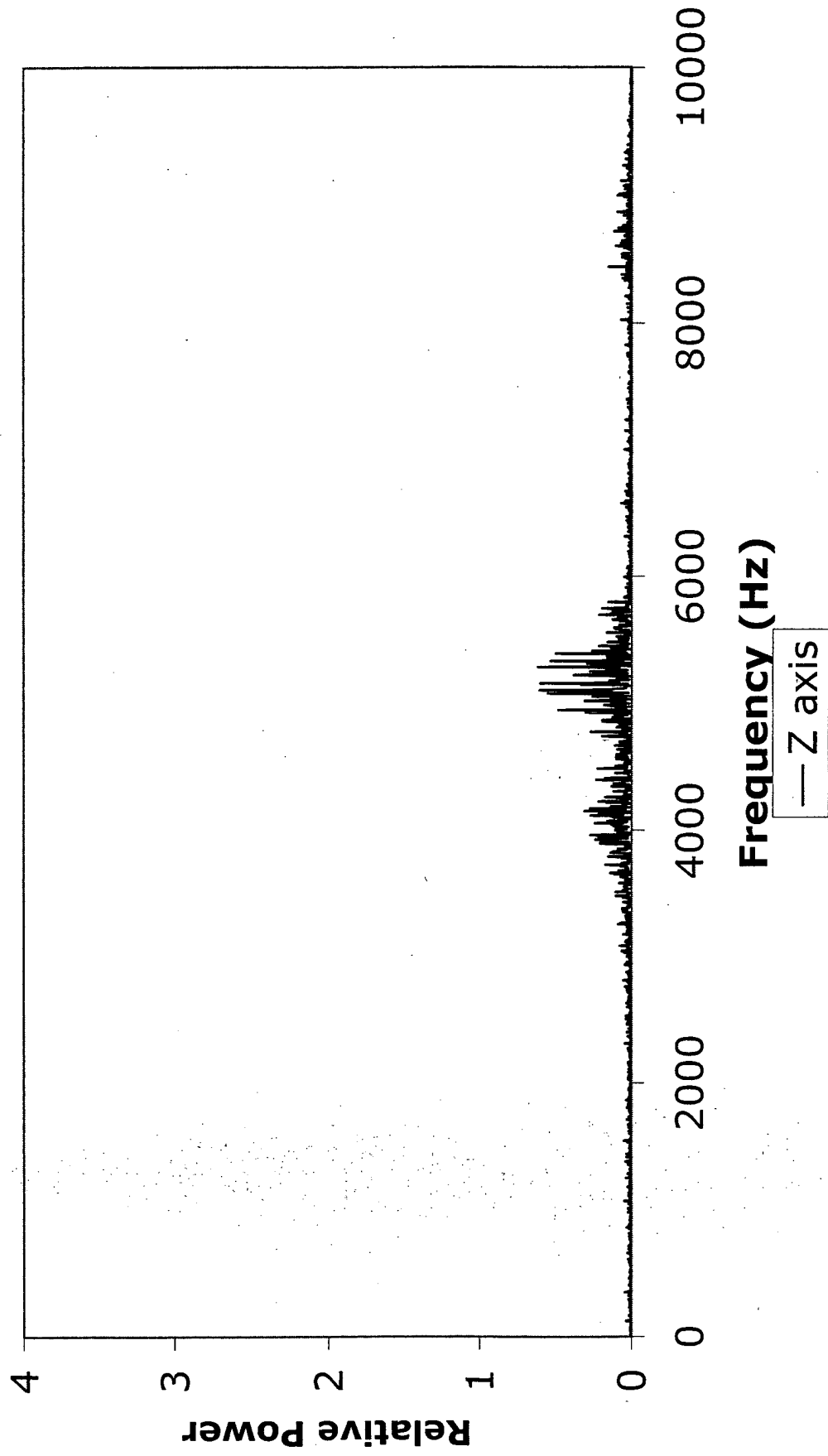


Figure 5C

# 8001 clogged to 87% flow 300 kPa

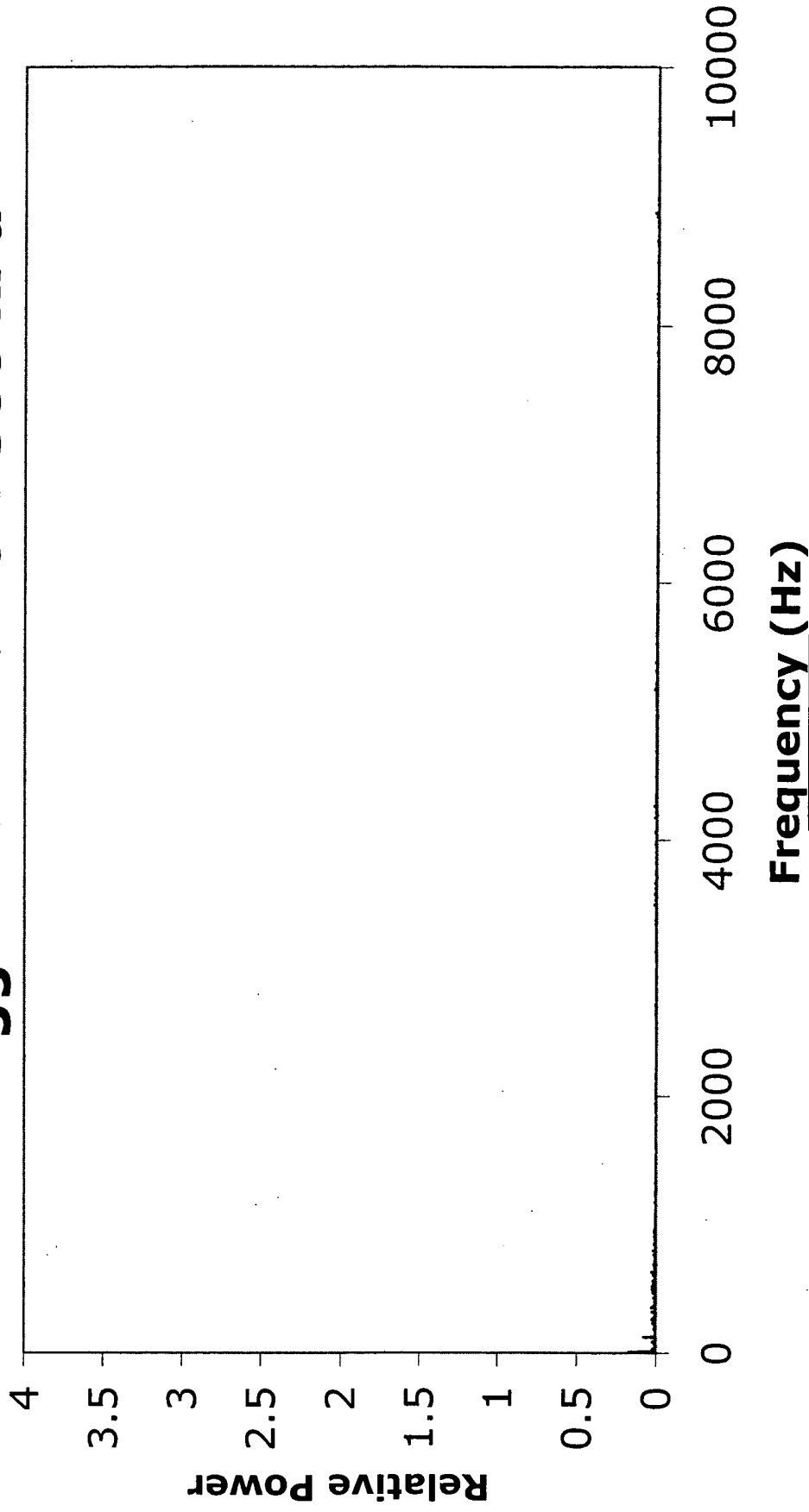
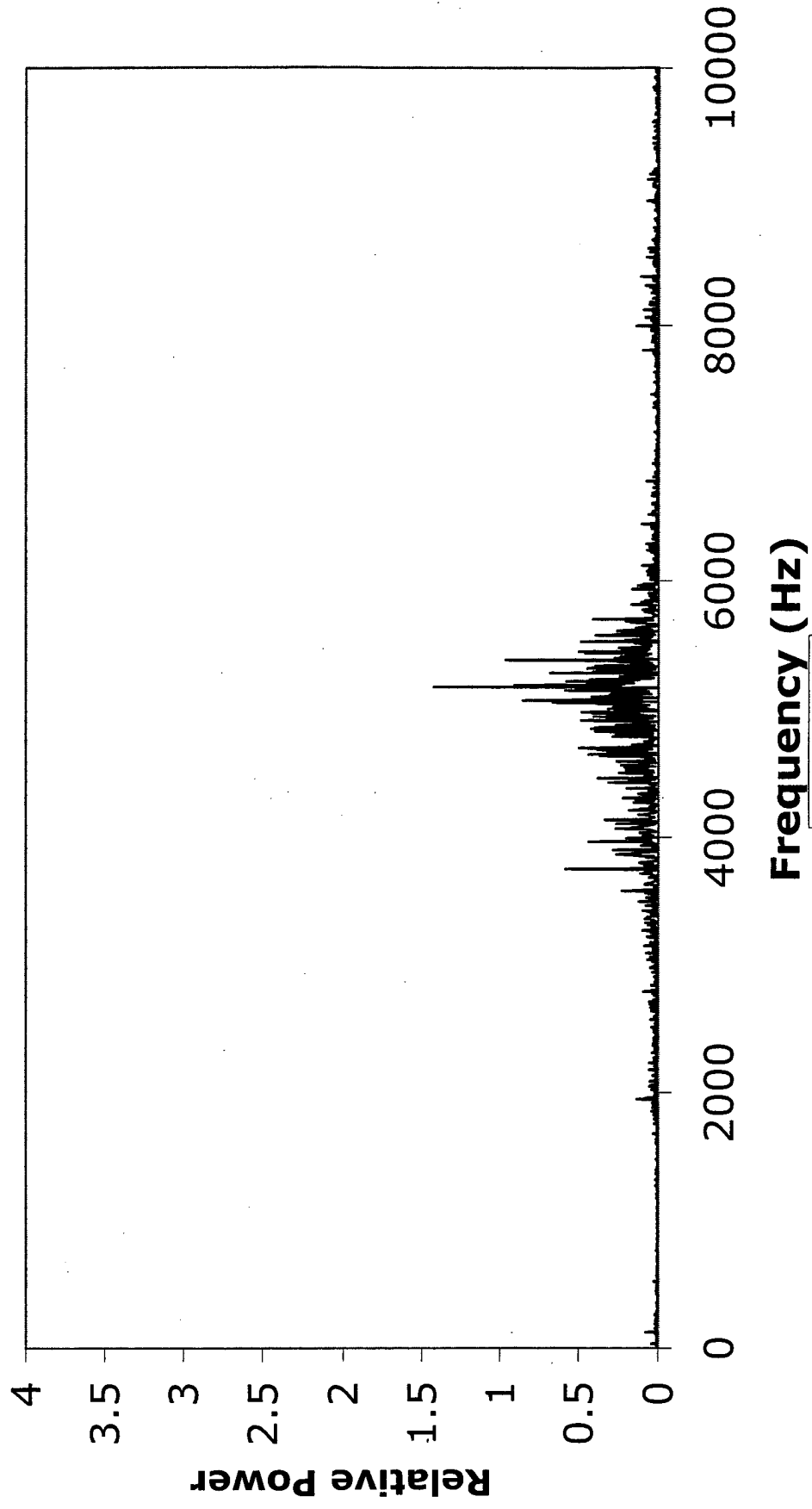


Figure 5D

# 8001 clogged to 87% flow 300 kPa



— Y axis

Figure 5E

# 8001 clogged to 87% flow 300 kPa

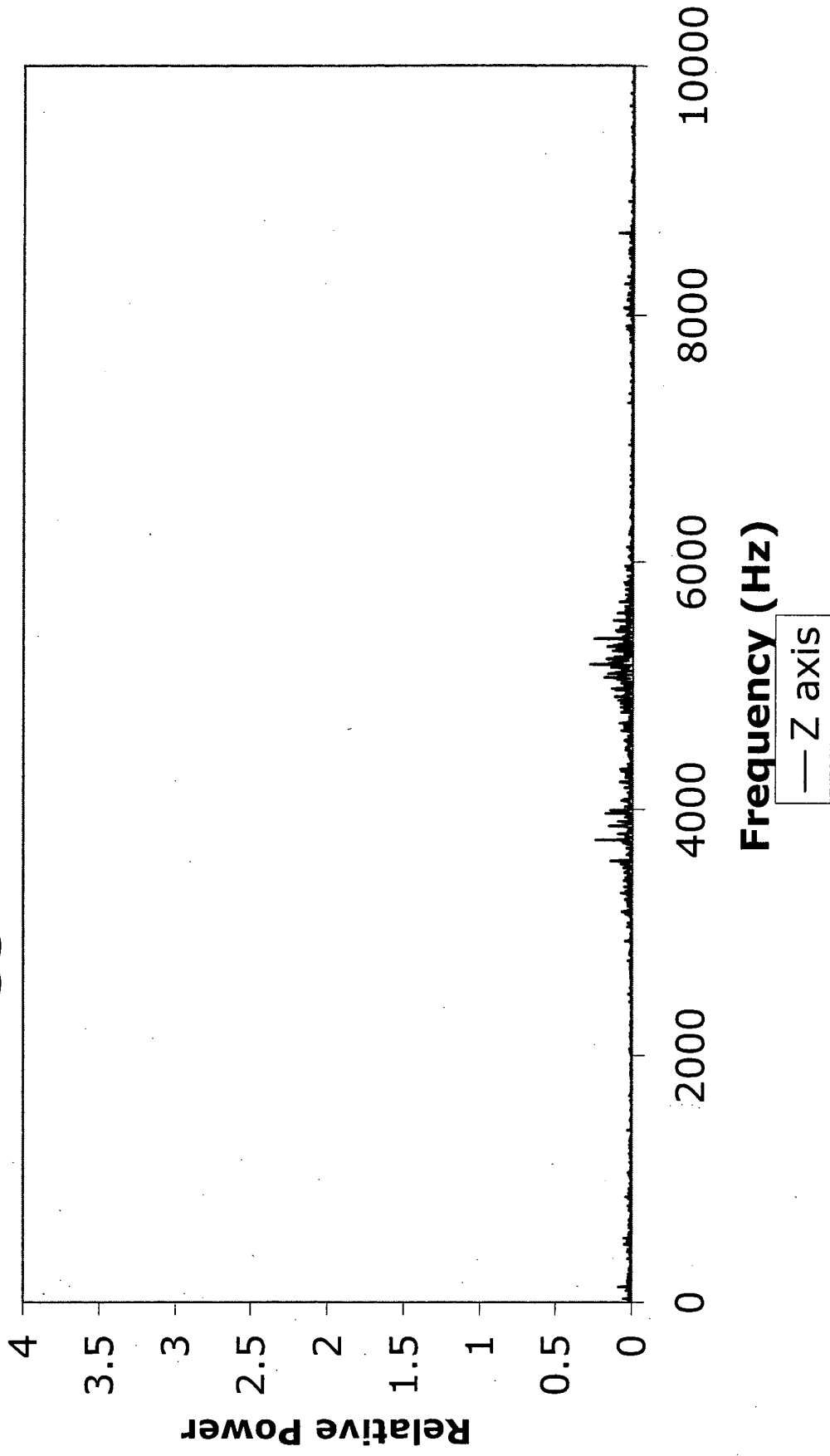
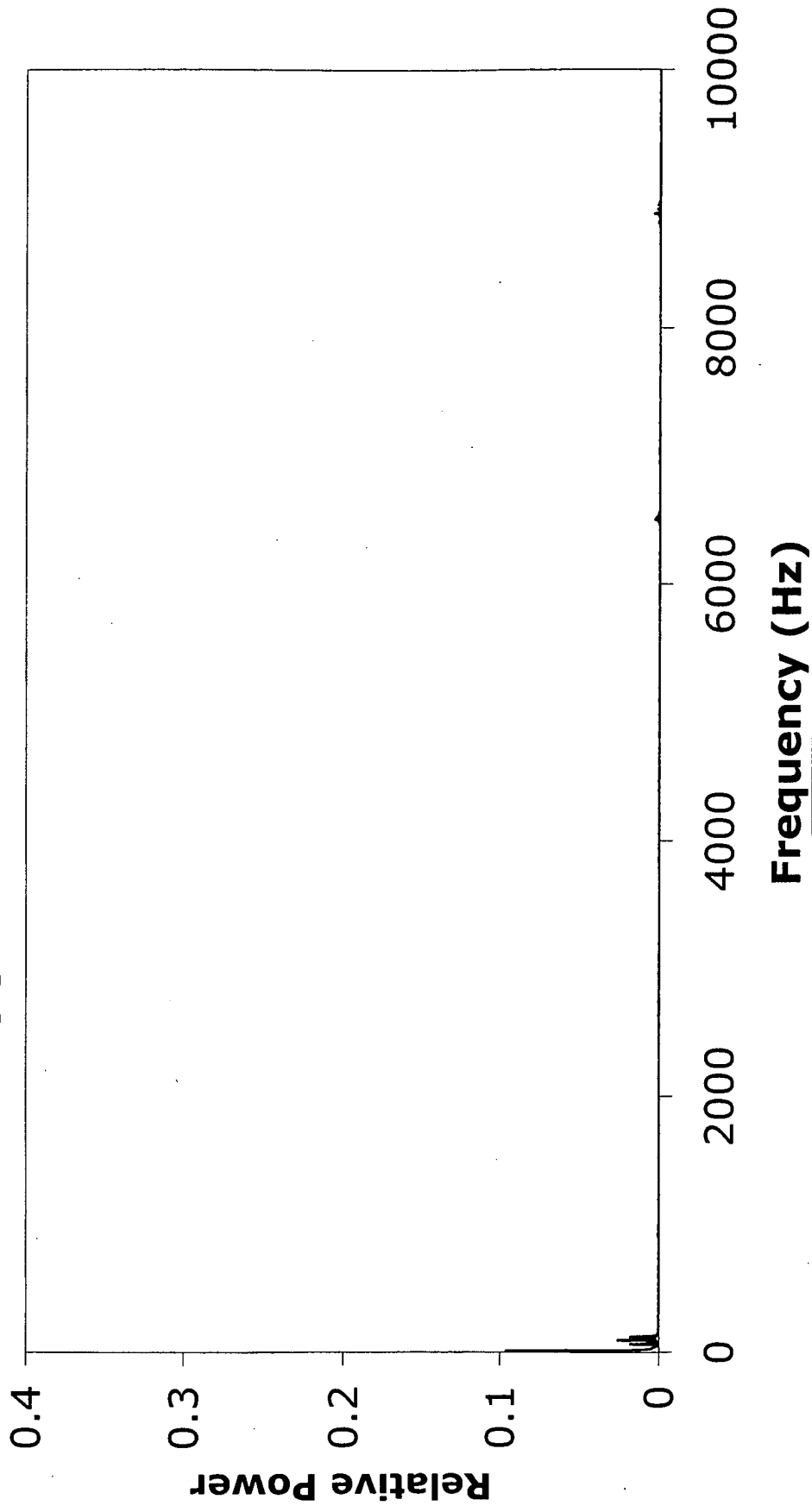


Figure 5F

# 8001 clogged to 30% flow 300 kPa



— X axis

Figure 5G

# 8001 clogged to 30% flow 300 kPa

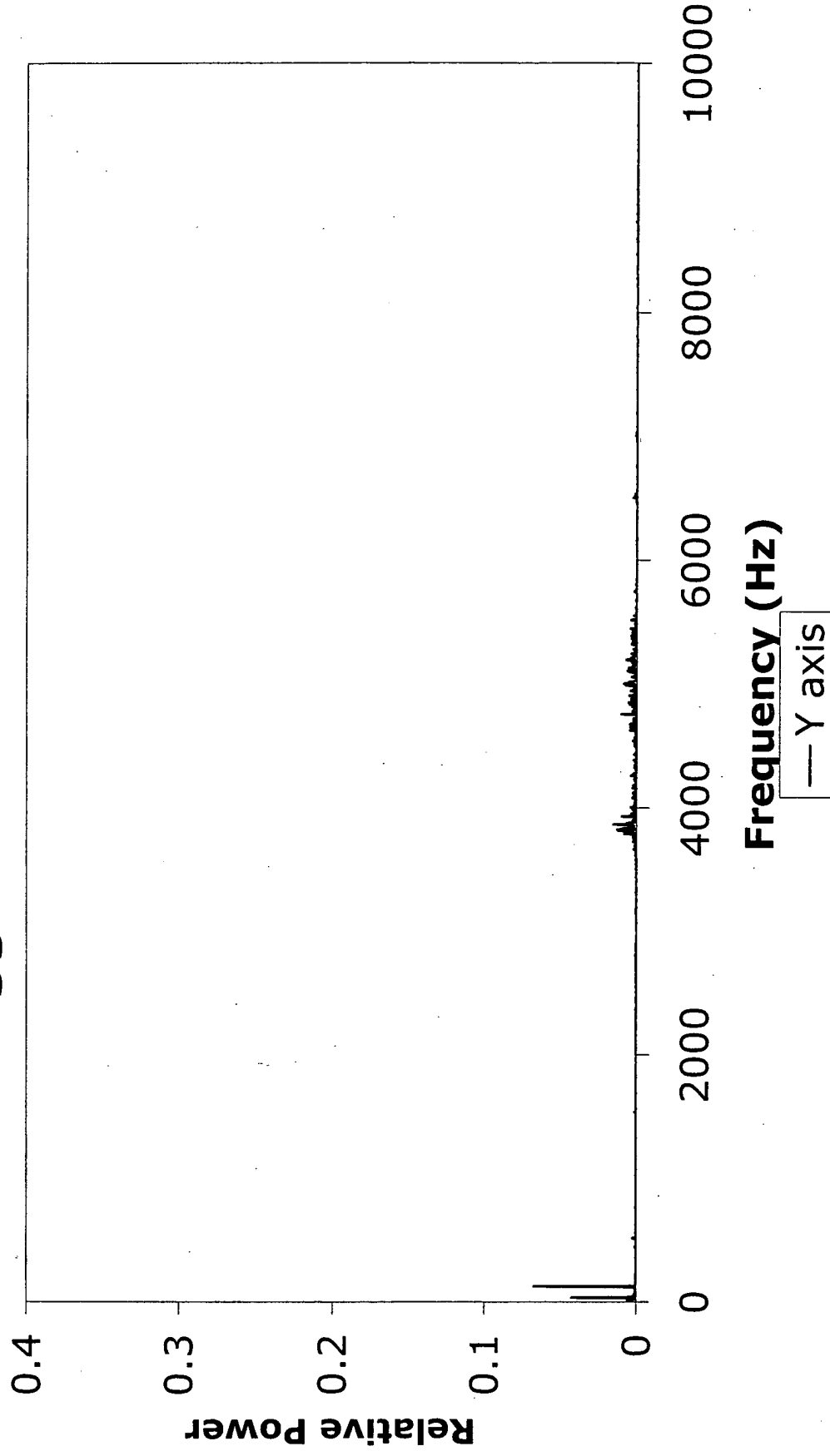
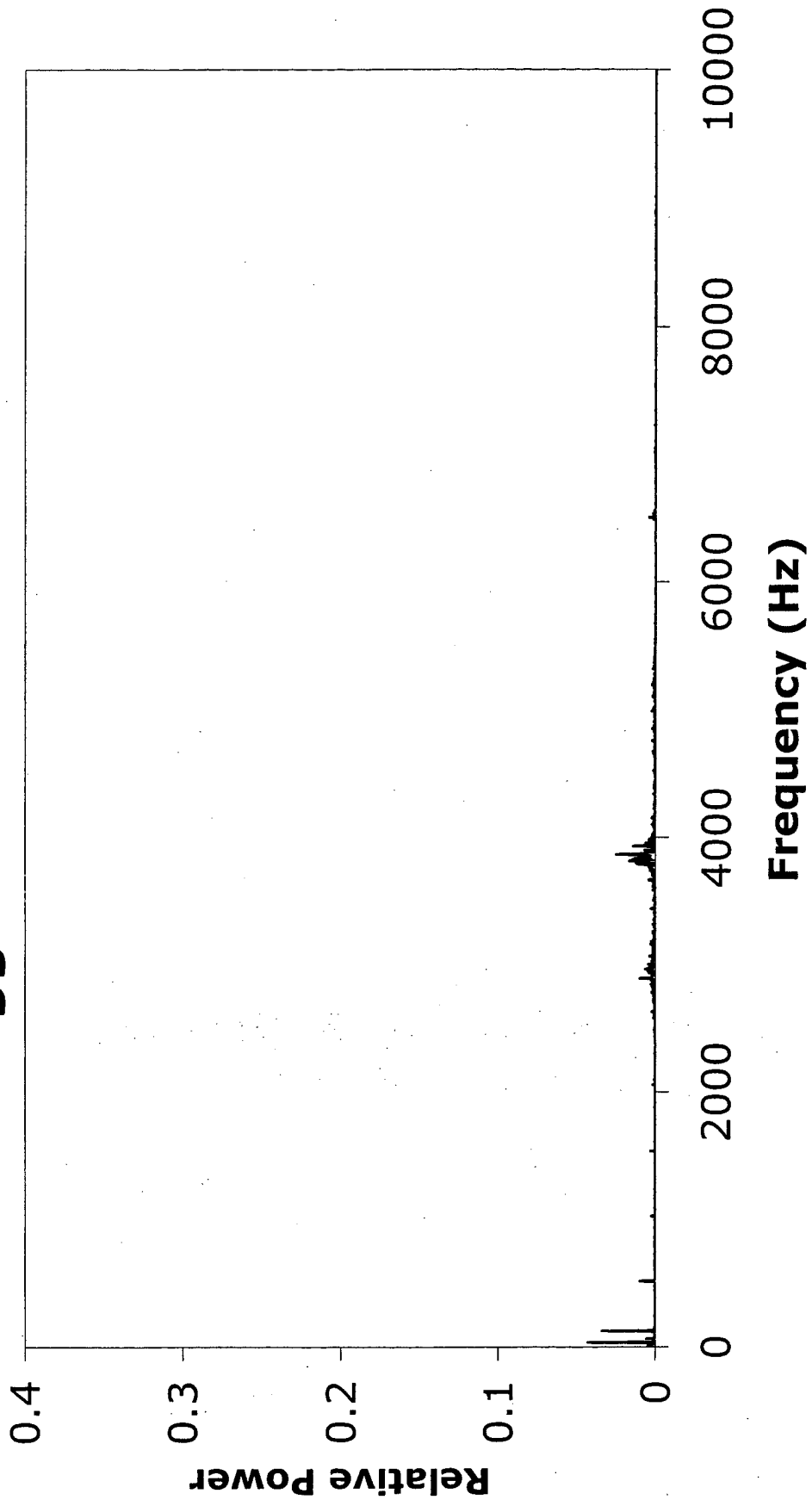


Figure 5H

# 80001 clogged to 30% flow 300 kPa



— Z axis

Figure 5I



## 8004 normal flow 300 kPa

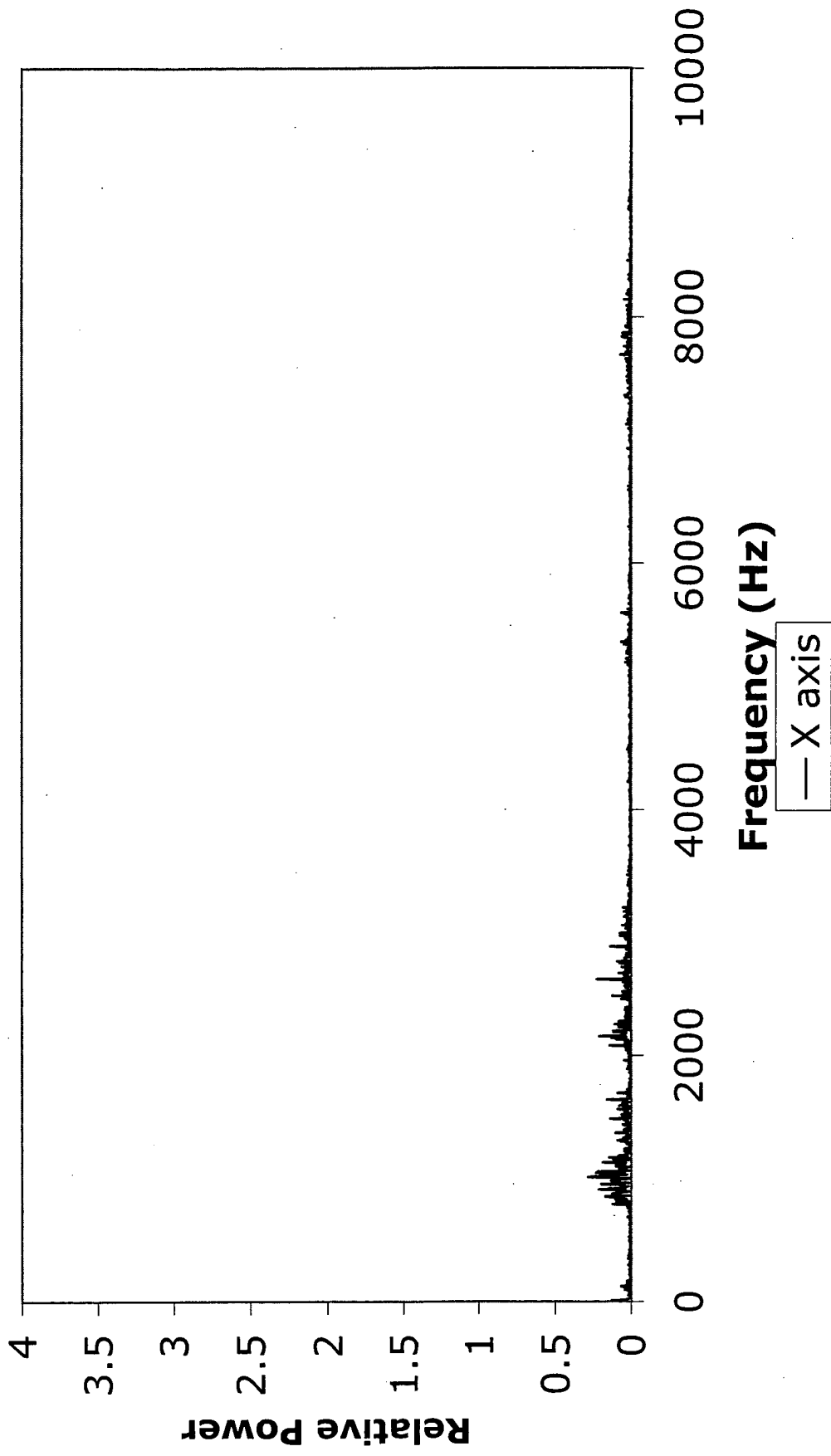


Figure 5J

# 8004 normal flow 300 kPa

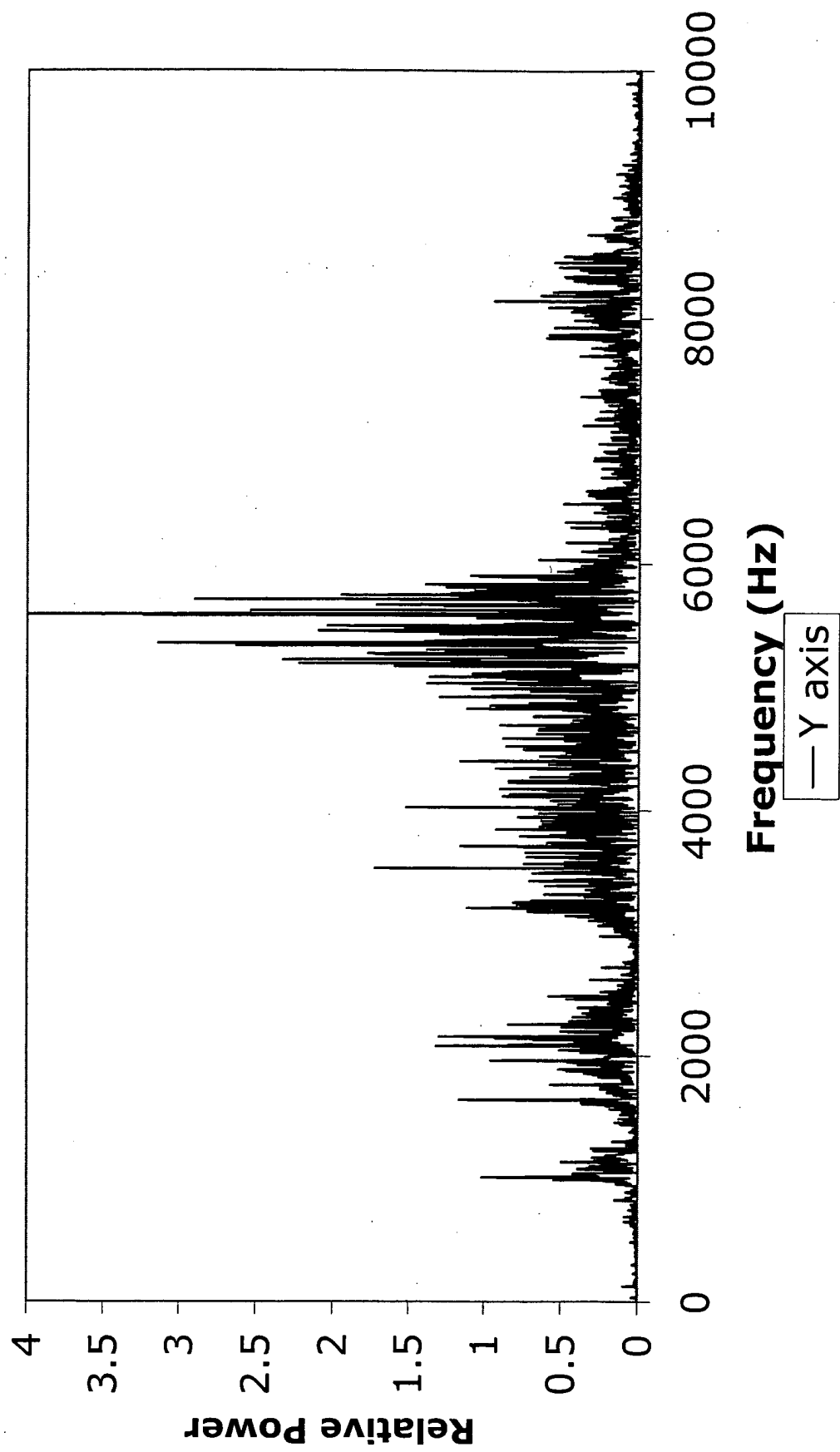


Figure 5K

# 8004 normal flow 300 kPa

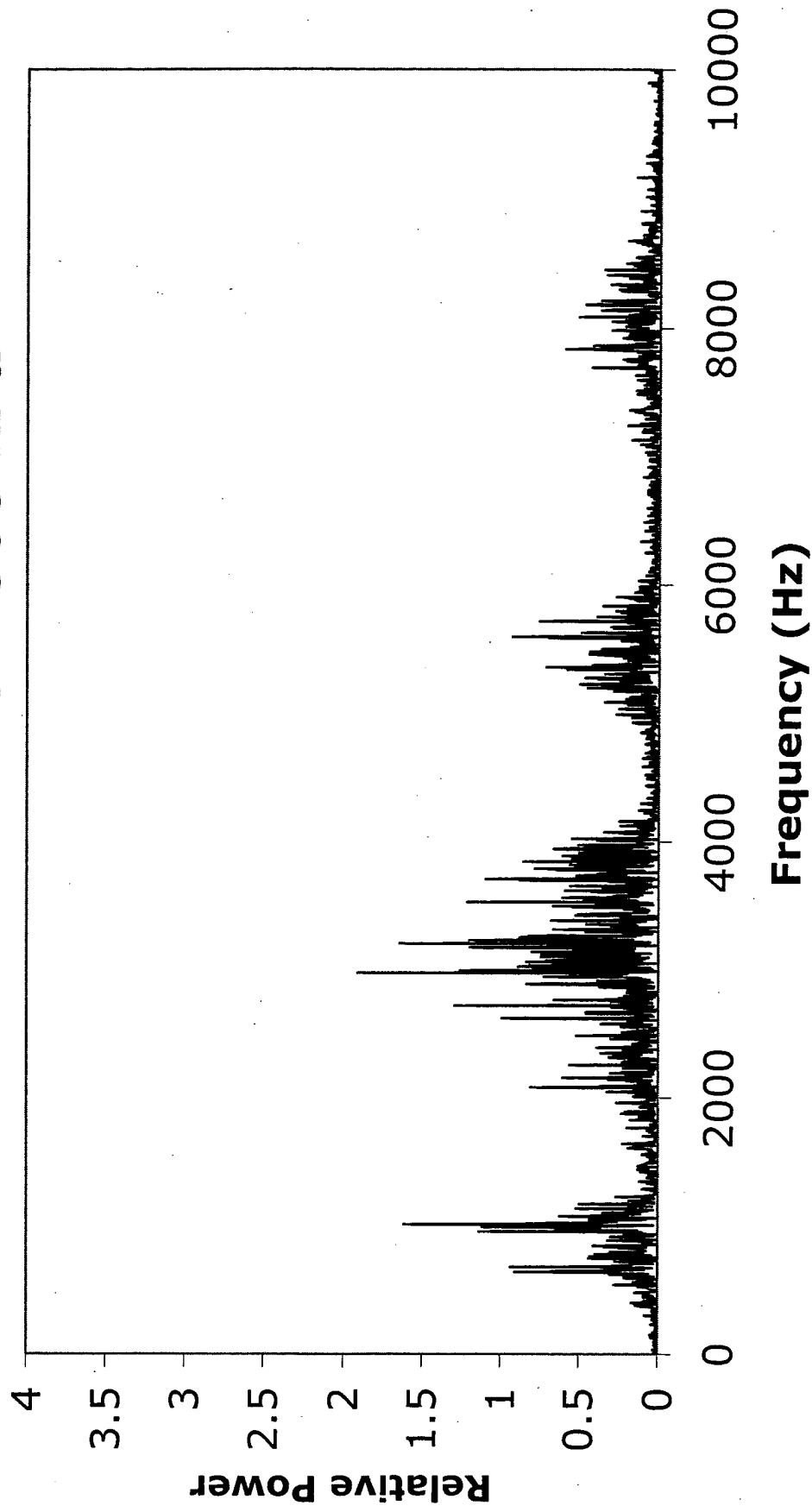
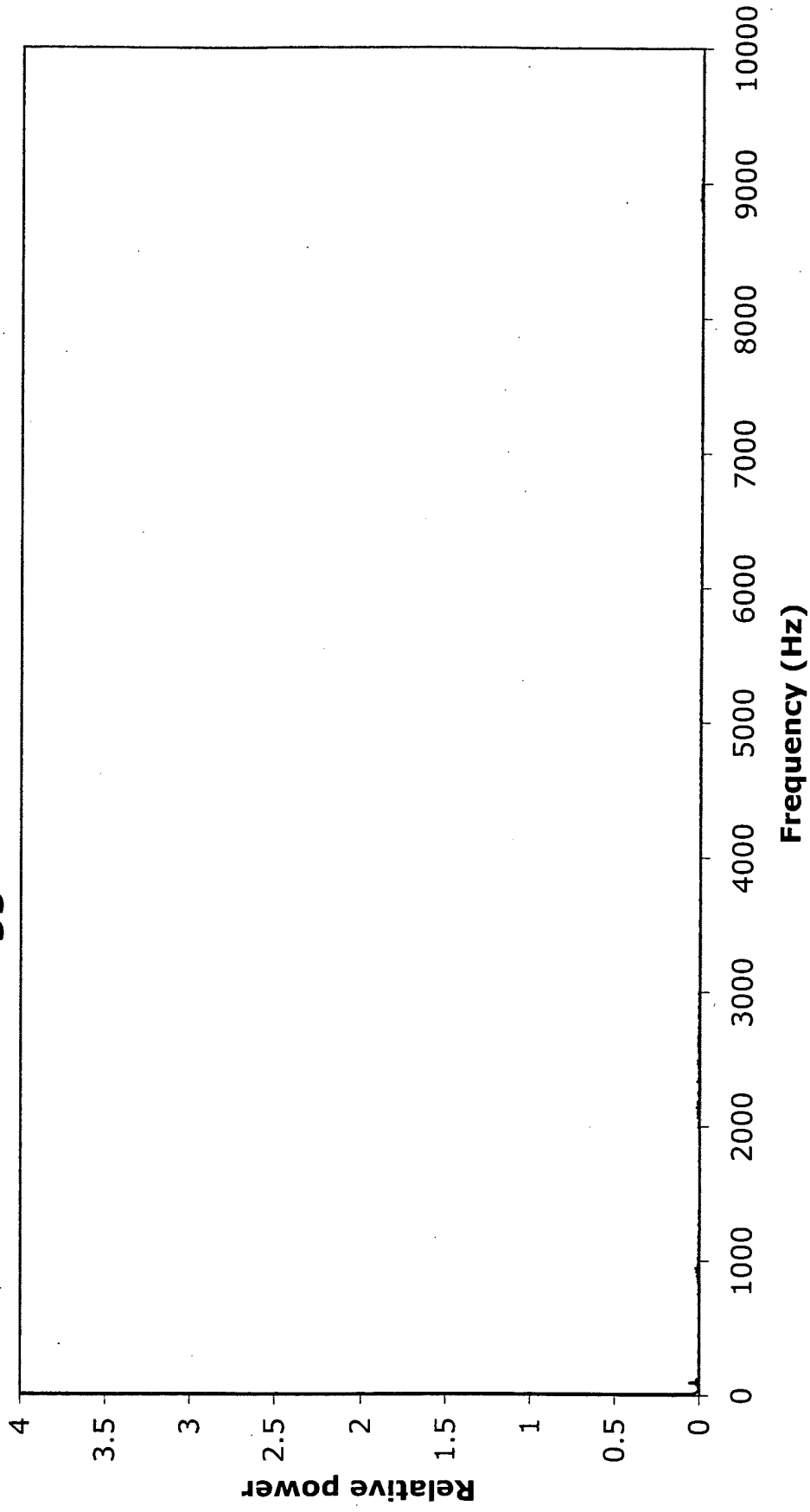


Figure 5L

# 8004 clogged to 62% flow 30 kPa



— X-axis

Figure 5M

# 8004 clogged to 62% flow 30 kPa

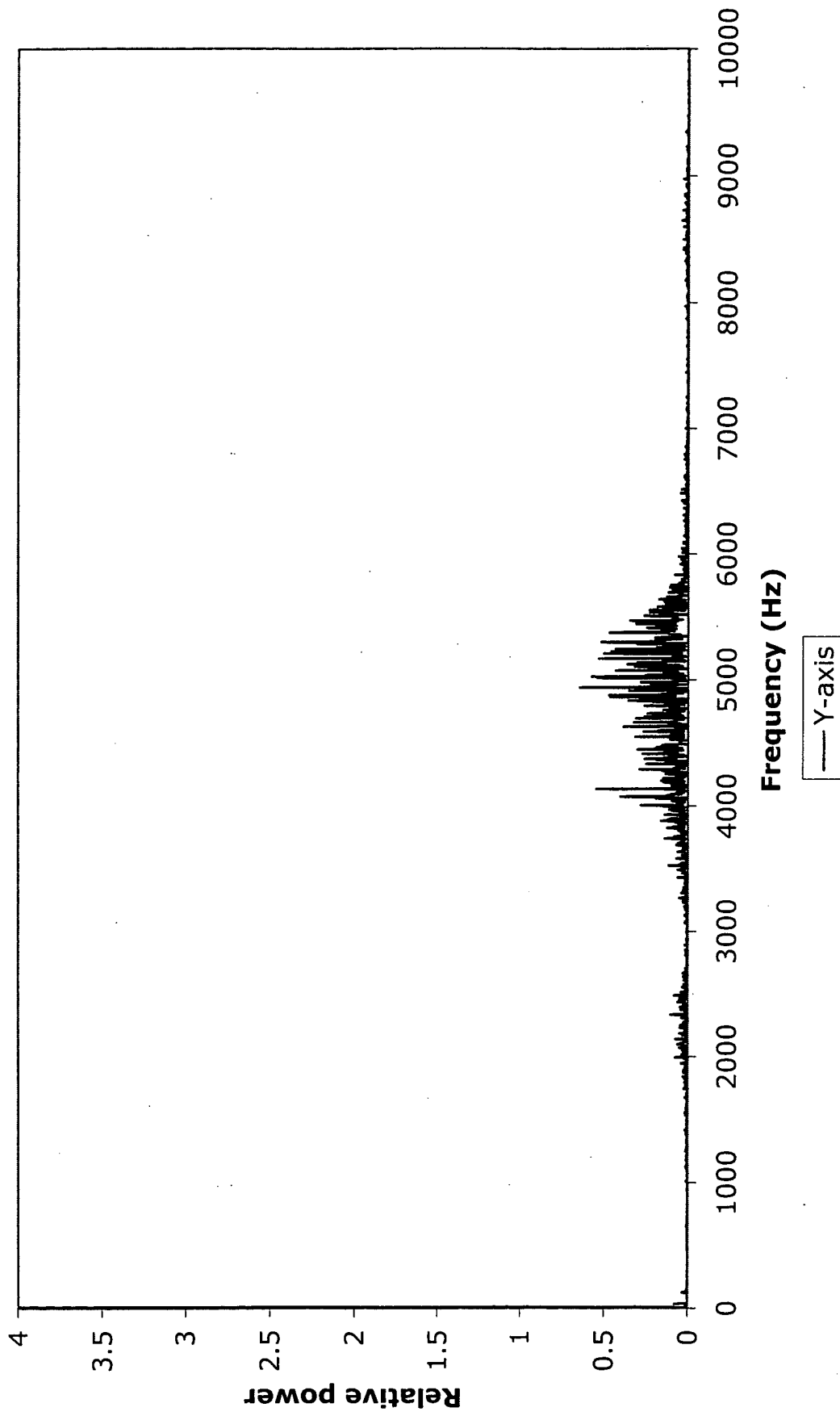
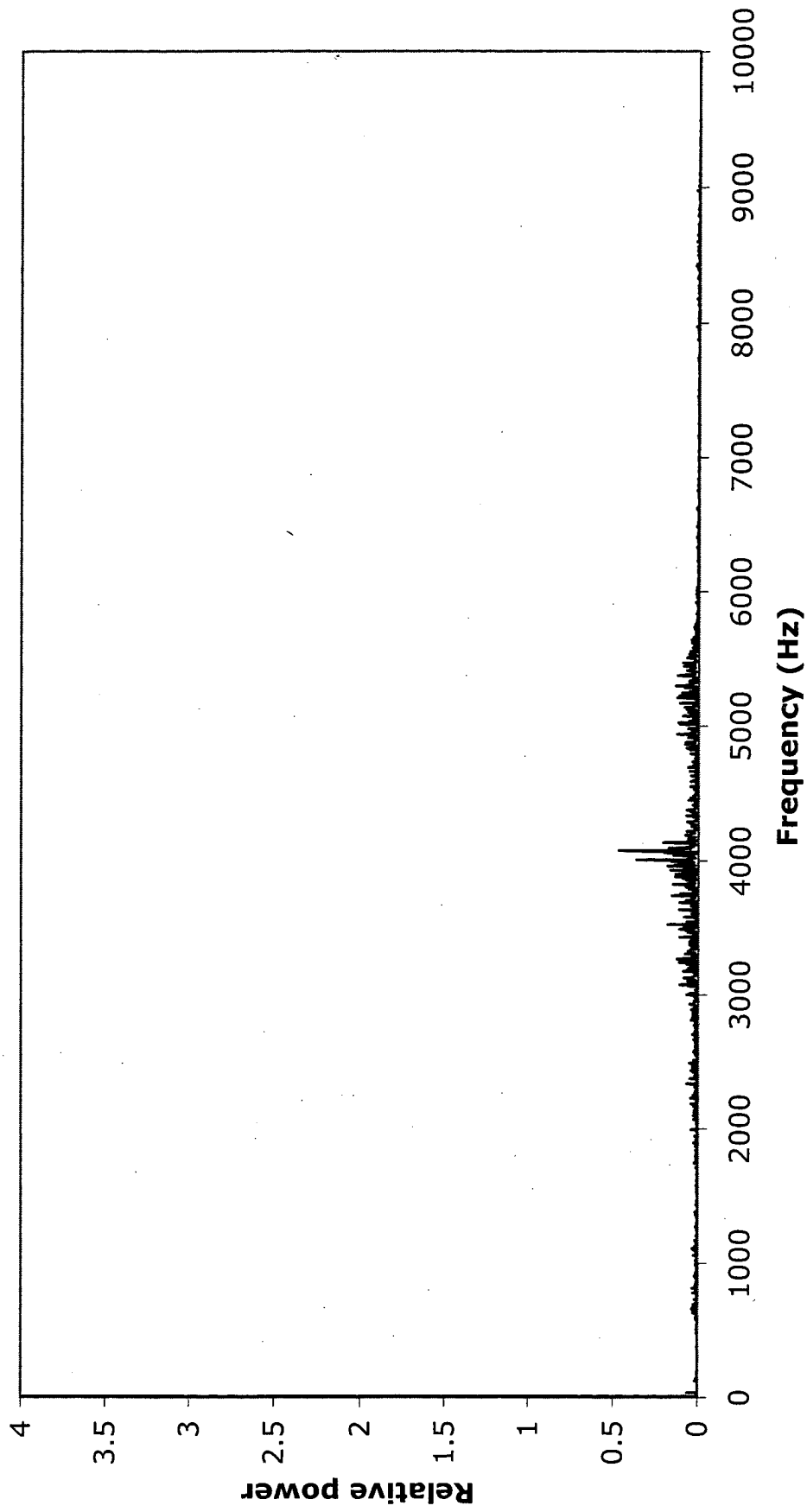


Figure 5N

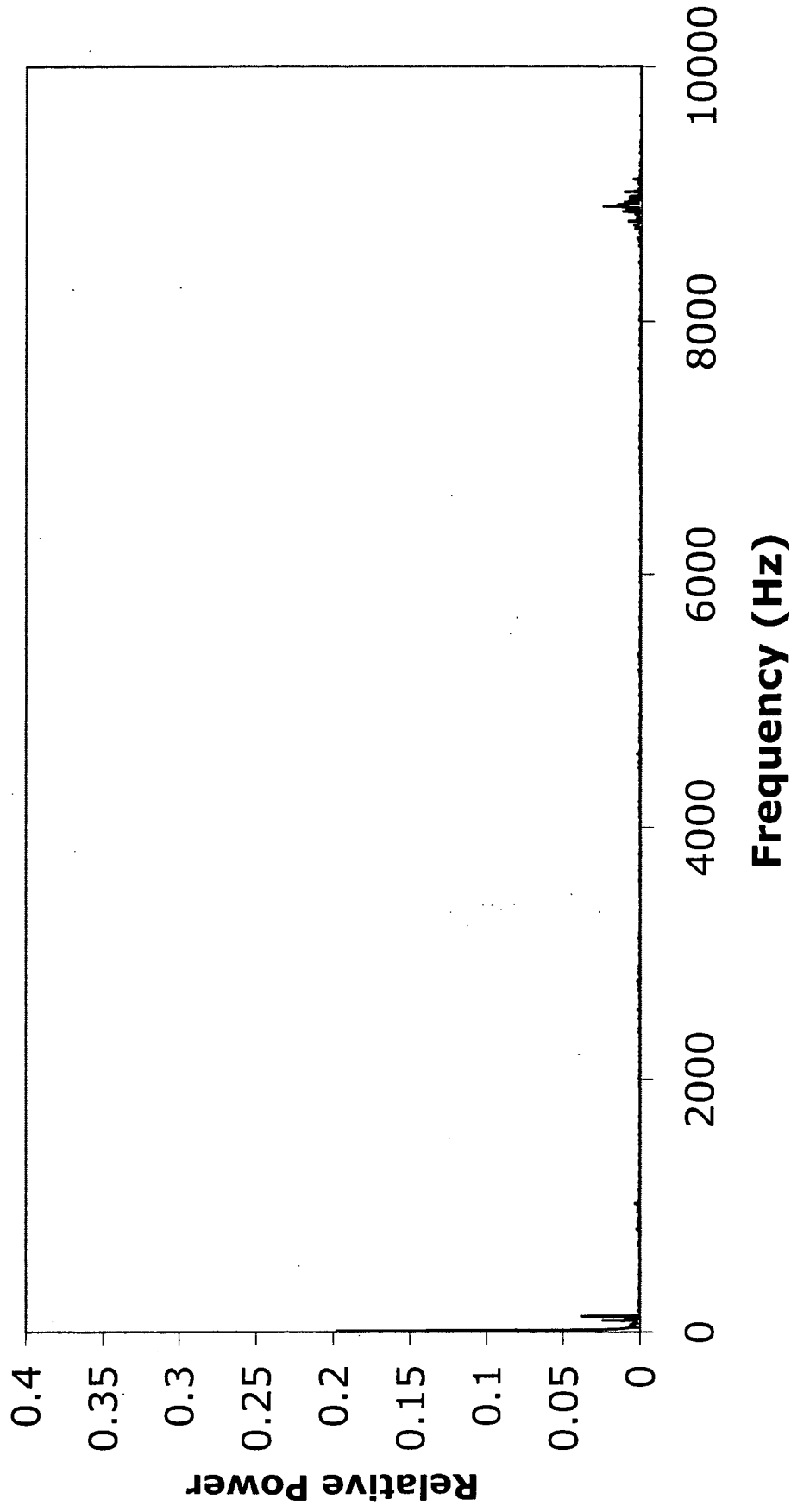
# 8004 clogged to 62% flow 30 kPa



— Z-axis

Figure 50

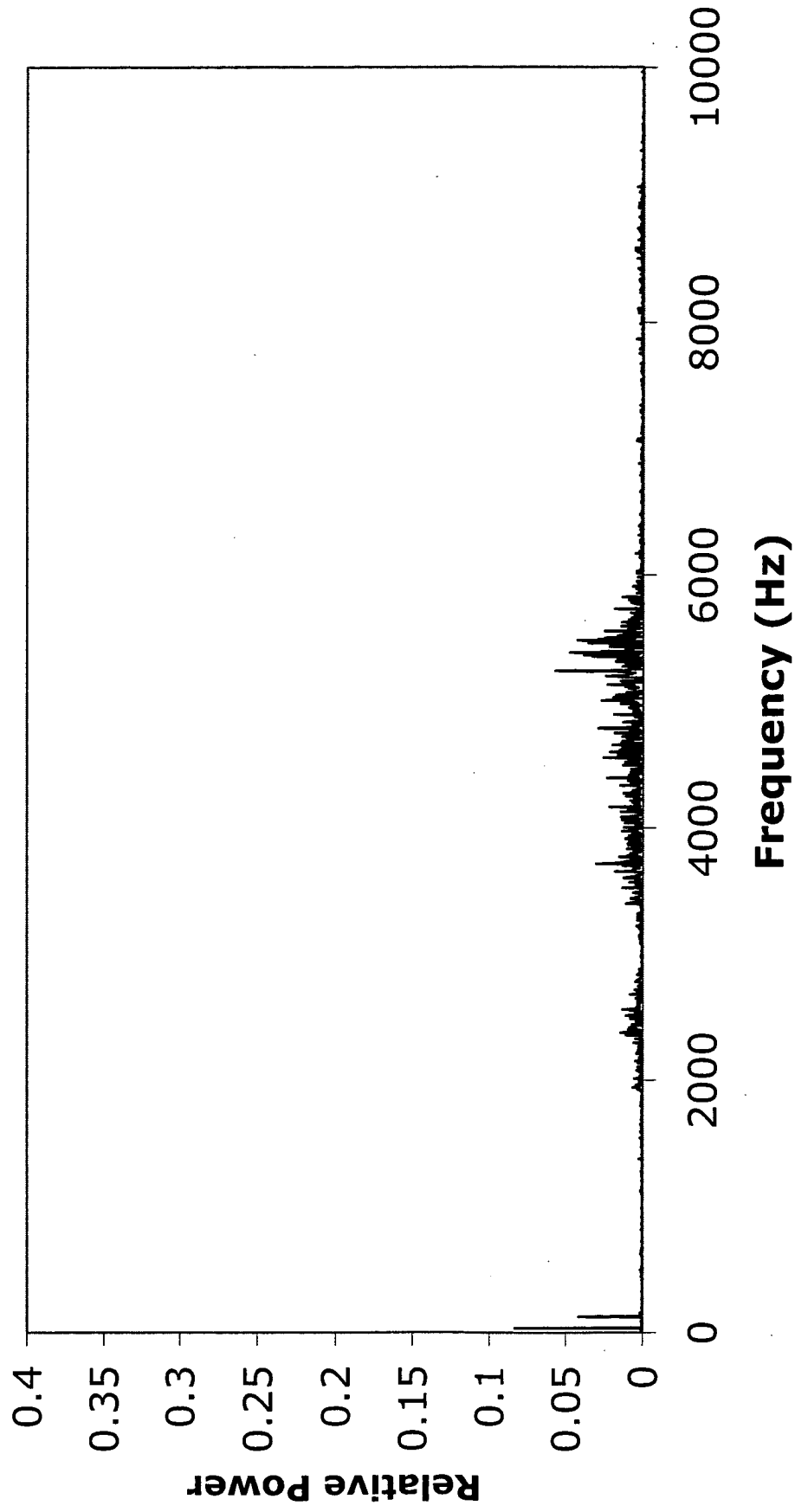
# 8004 clogged to 33% flow 300 kPa



— X axis

Figure 5P

# 8004 clogged to 33% flow 300 kPa



— Y axis

Figure 5Q



# 8004 clogged to 33% flow 300 kPa

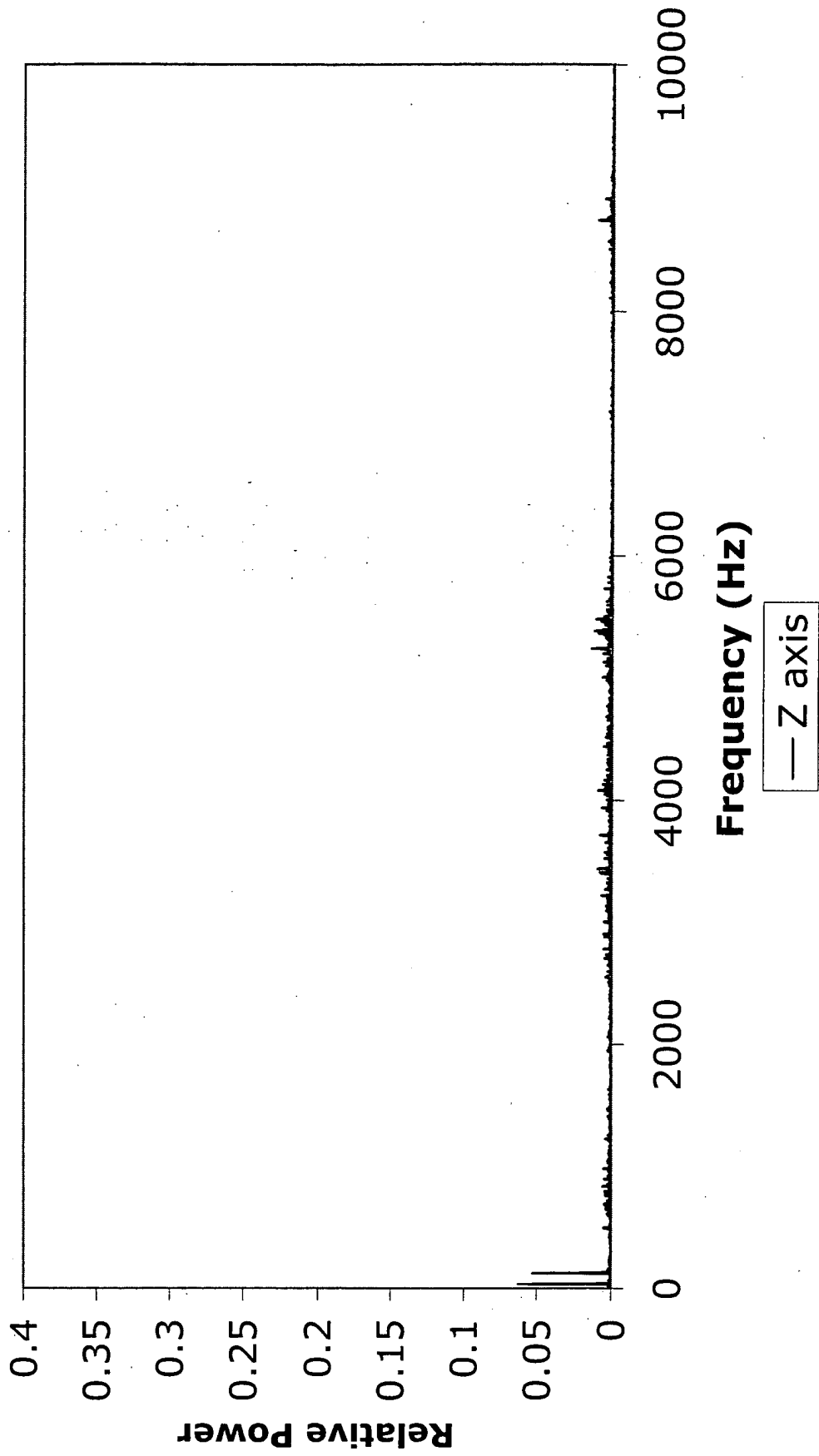
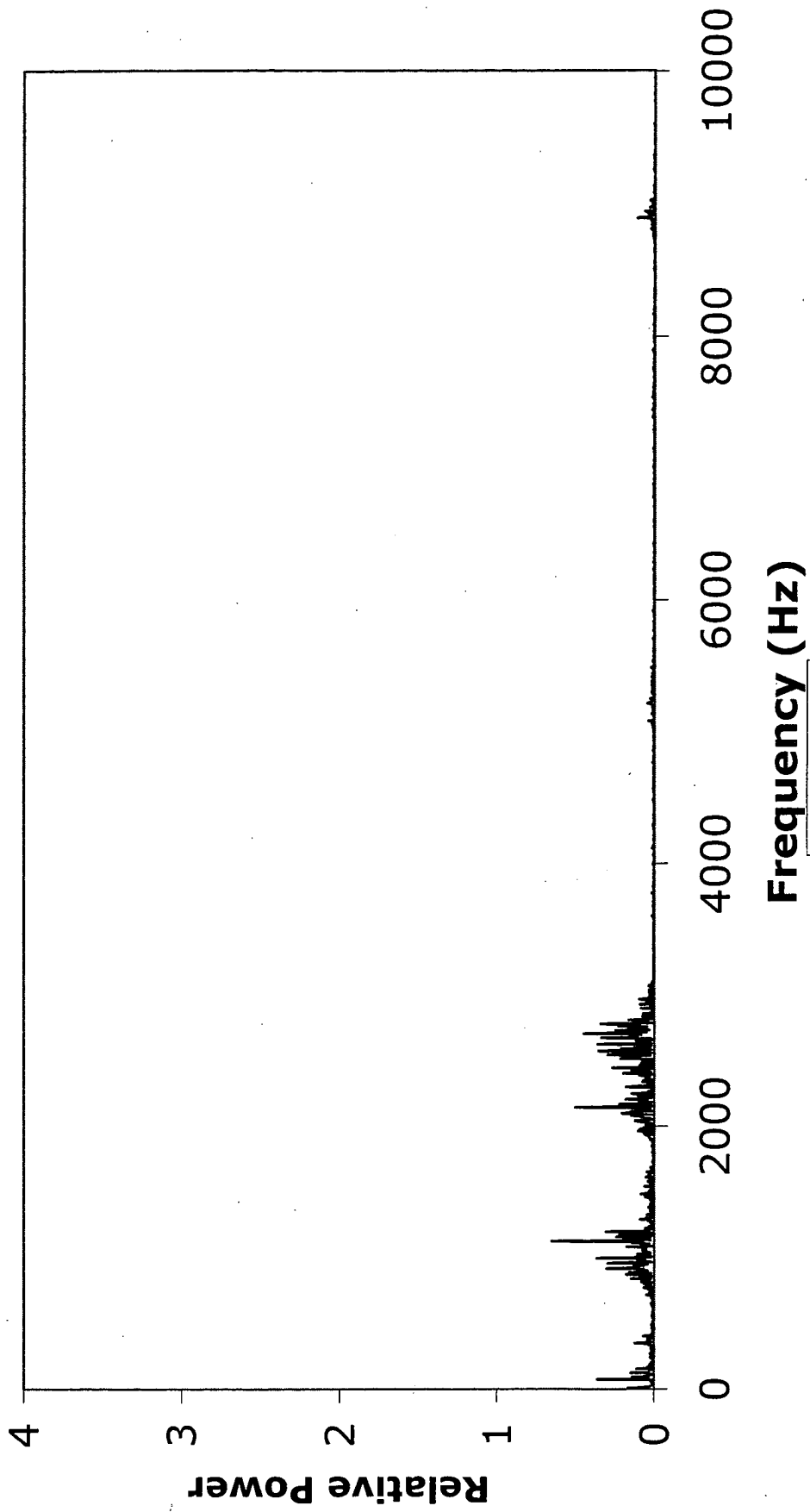


Figure 5R

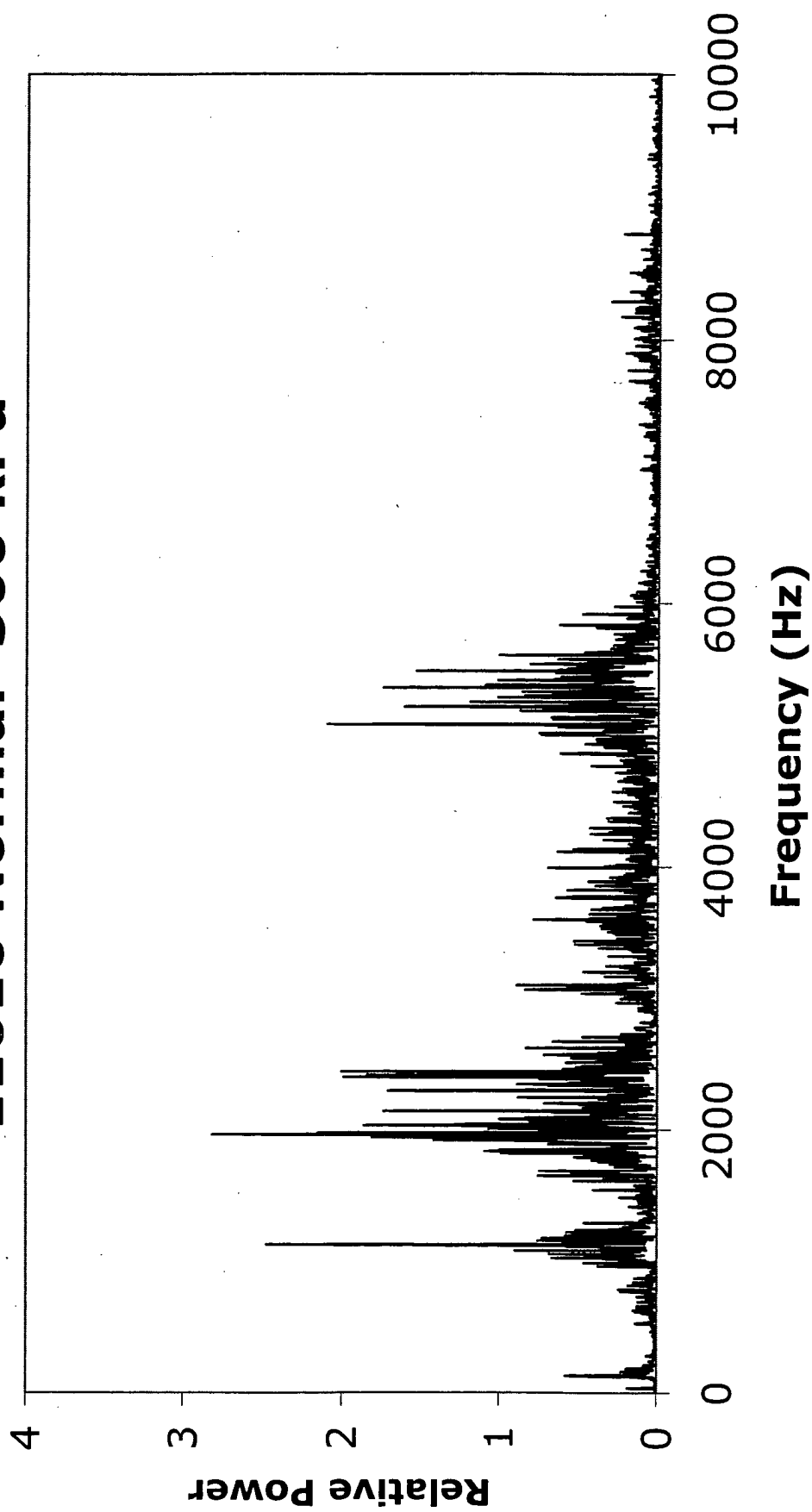
# 11010 Normal 300 kPa



— X axis

Figure 6A

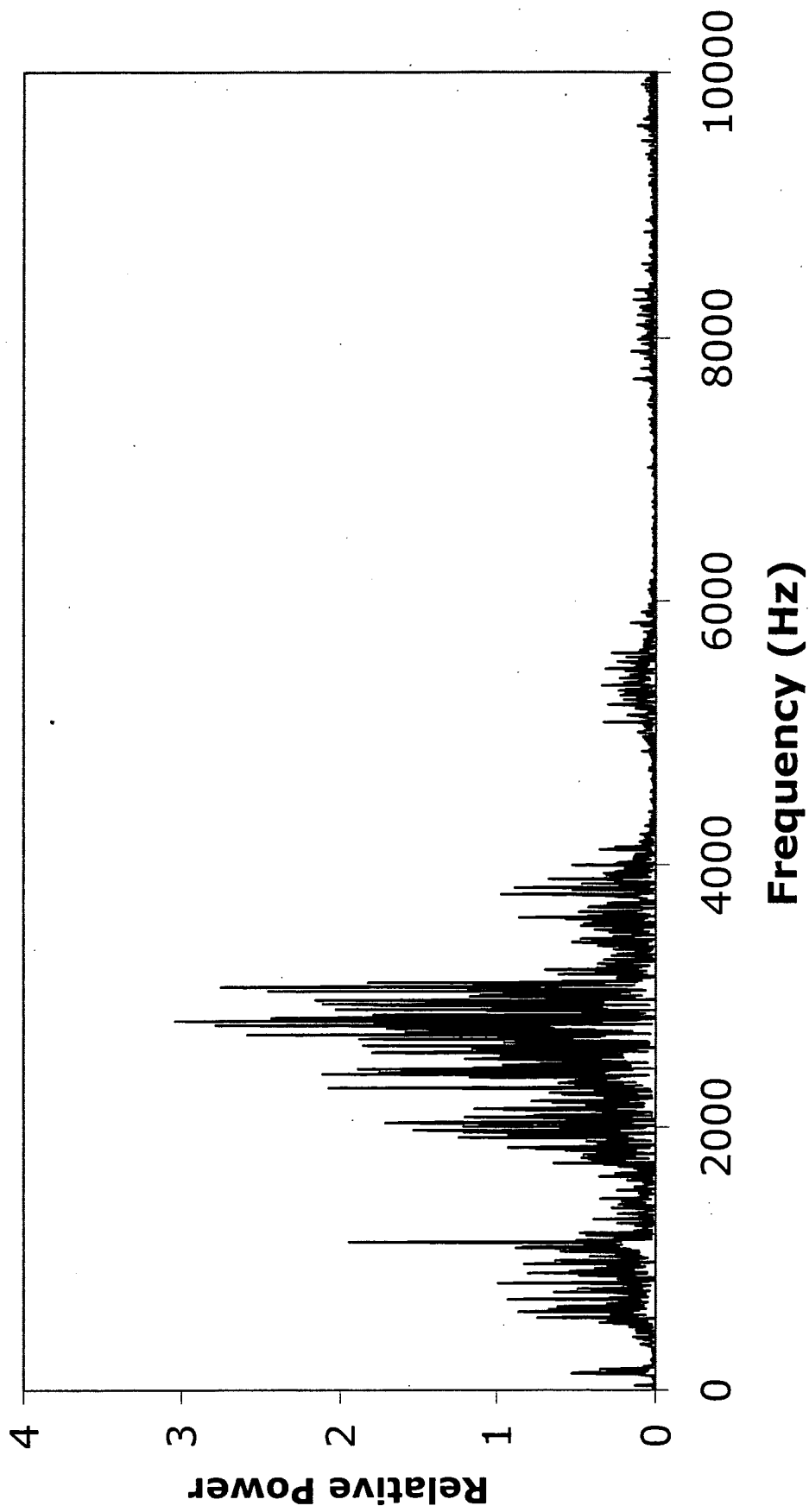
# 11010 Normal 300 kPa



— Y axis

Figure 6B

# 11010 Normal 300 kPa



— Z axis

Figure 6C

# 11010 clogged to 73% flow 300kPa

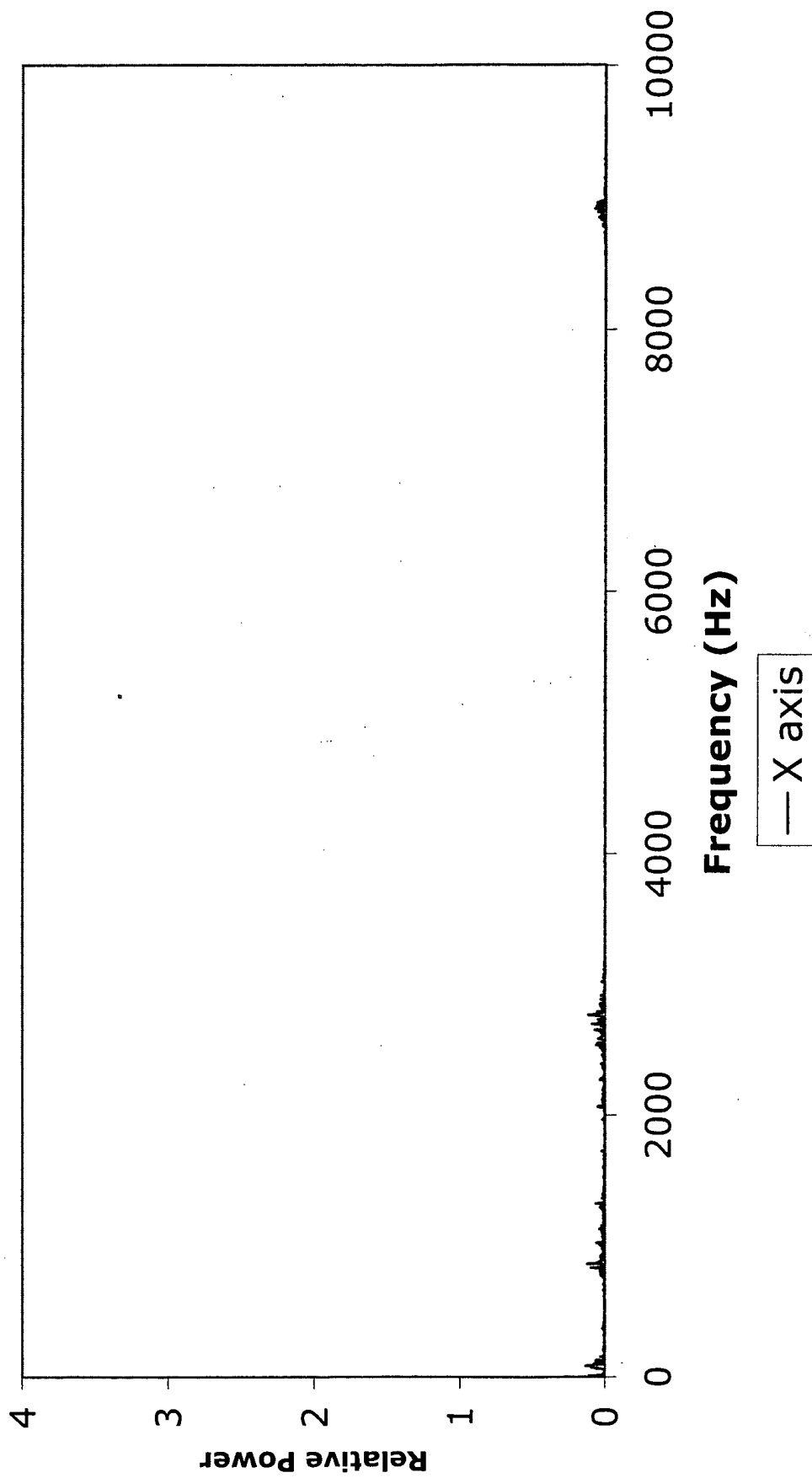
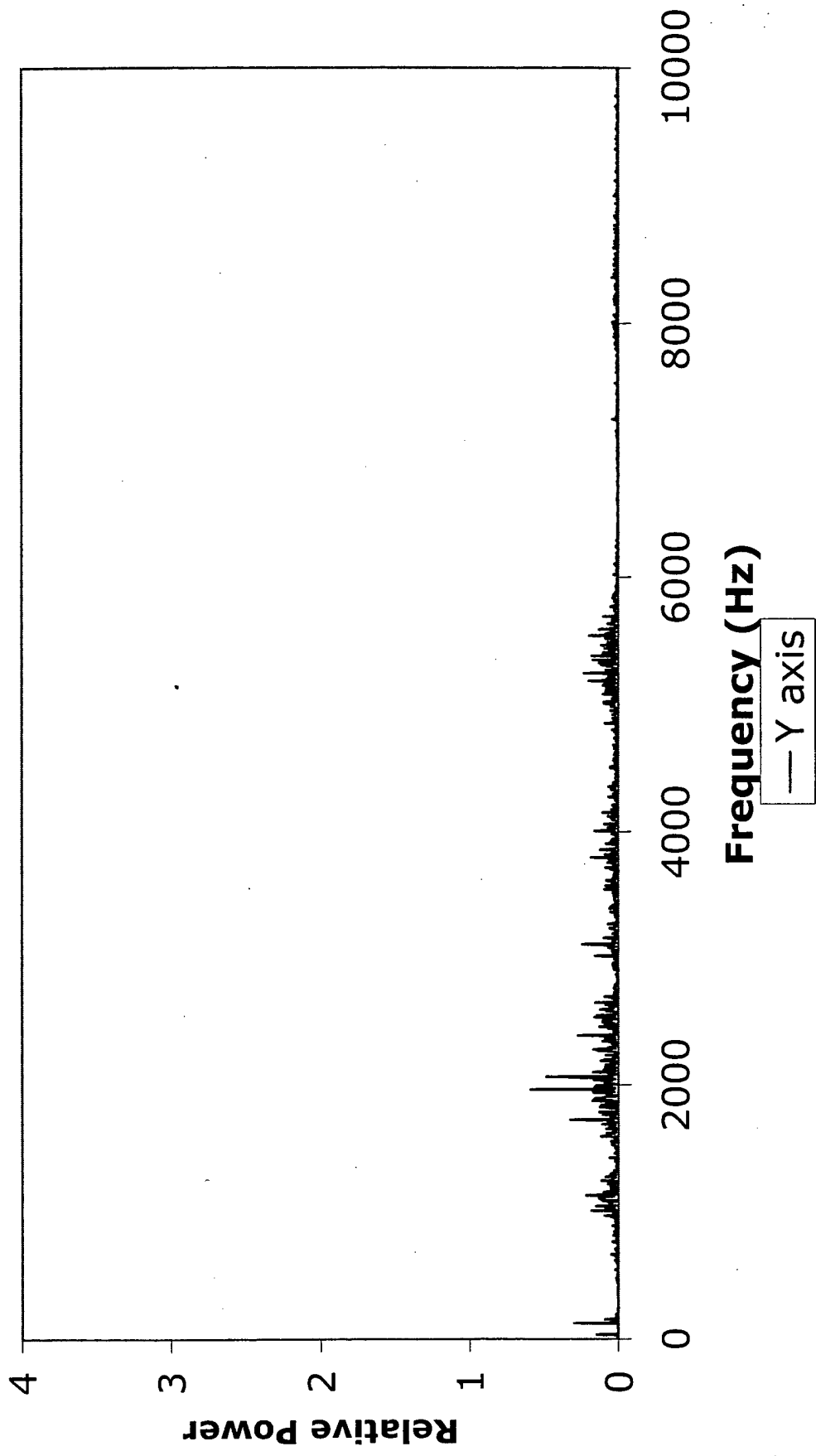


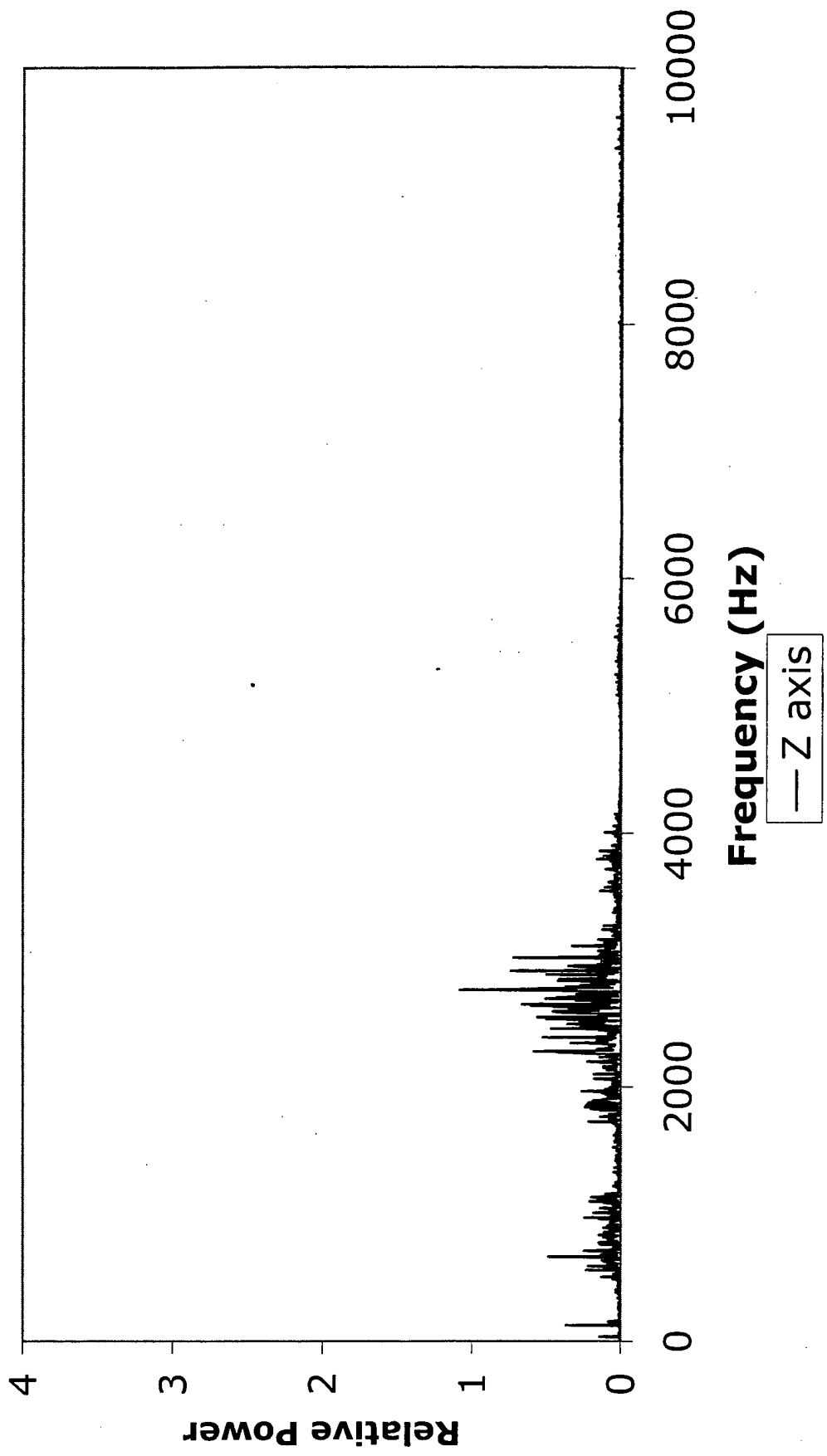
Figure 6D

**11010 clogged to 73% flow 300kPa**



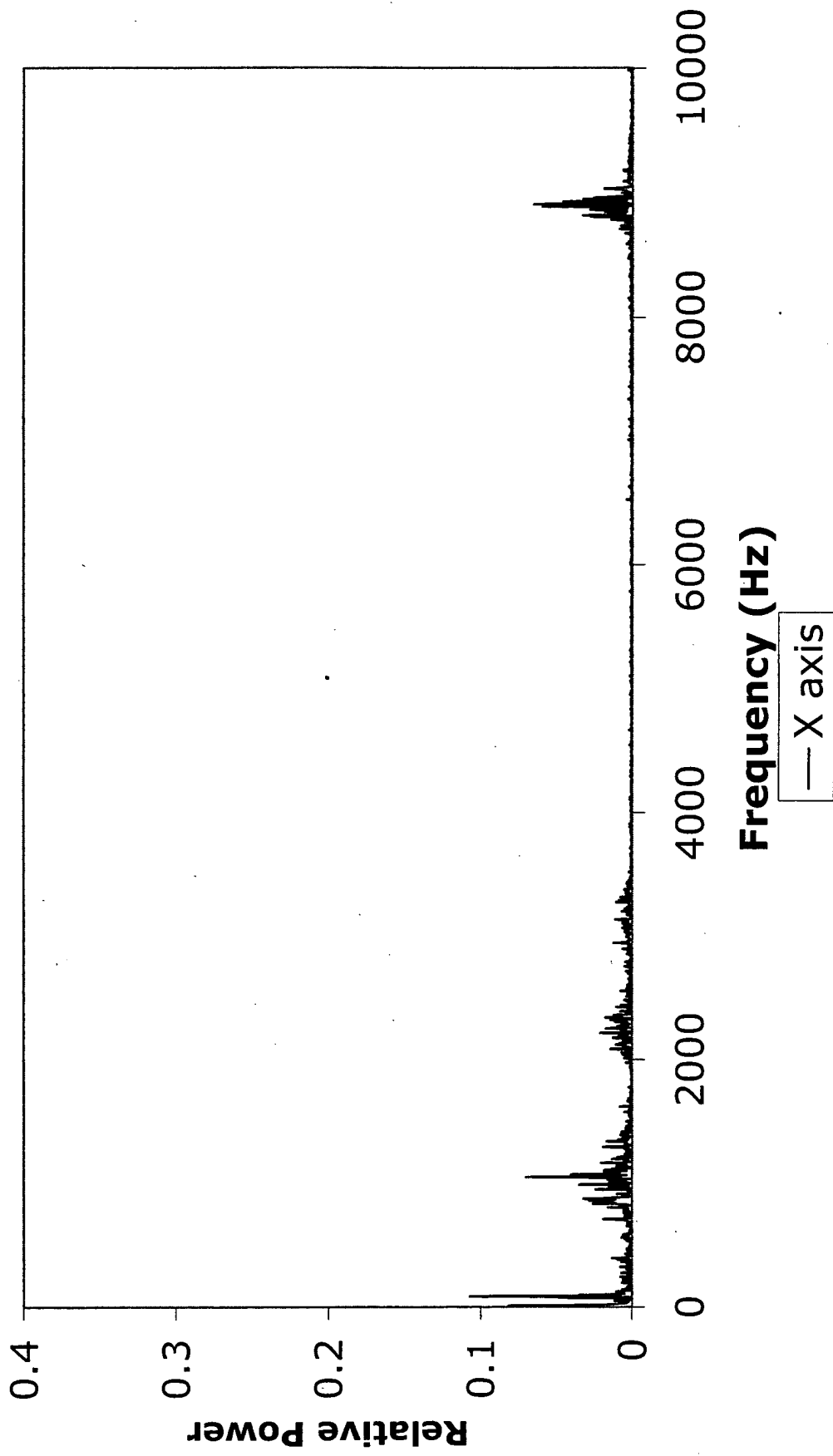
**Figure 6E**

**11010 clogged to 73% flow 300kPa**



**Figure 6F**

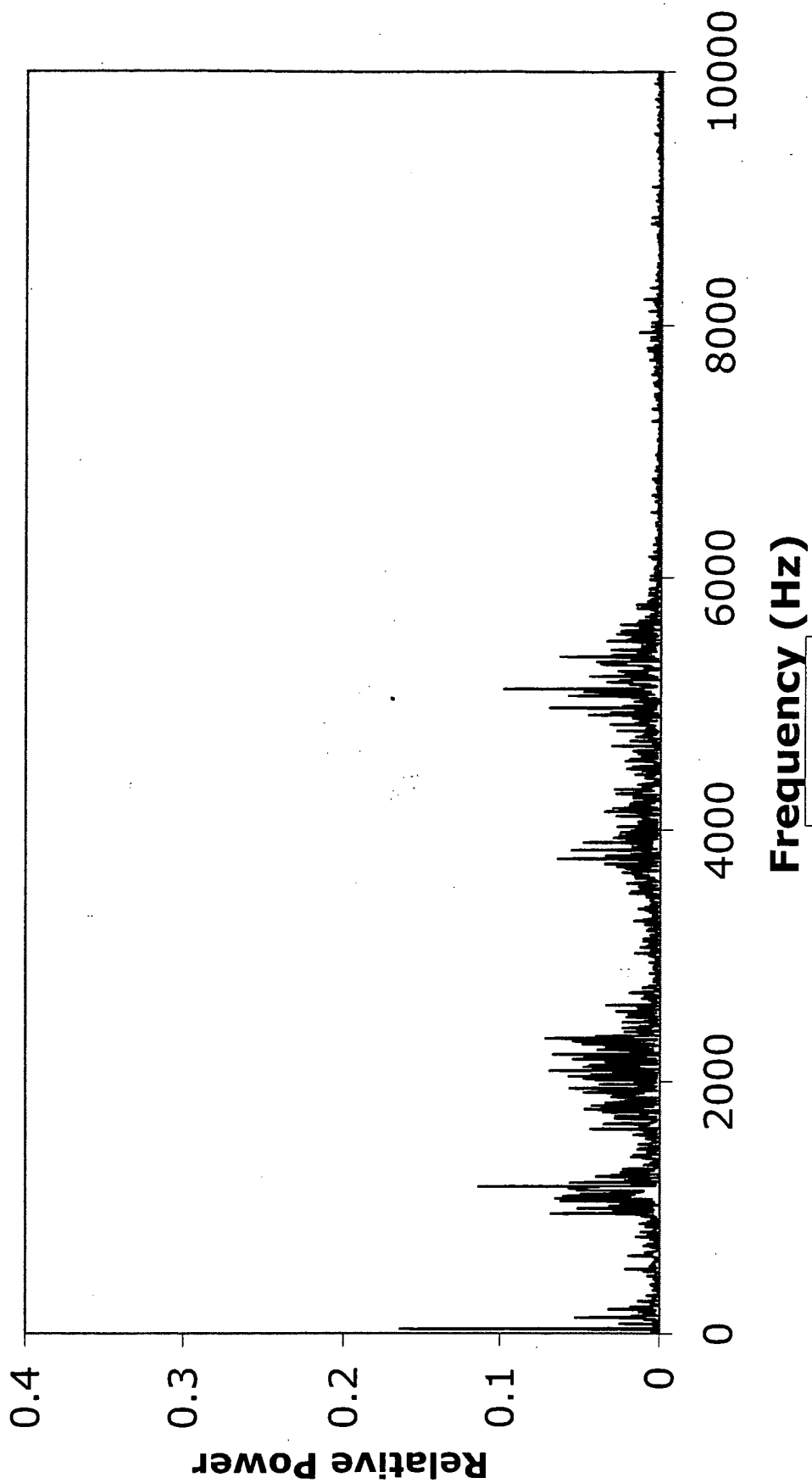
**11010 clogged to 52% flow 300 kPa**



**Figure 6G**



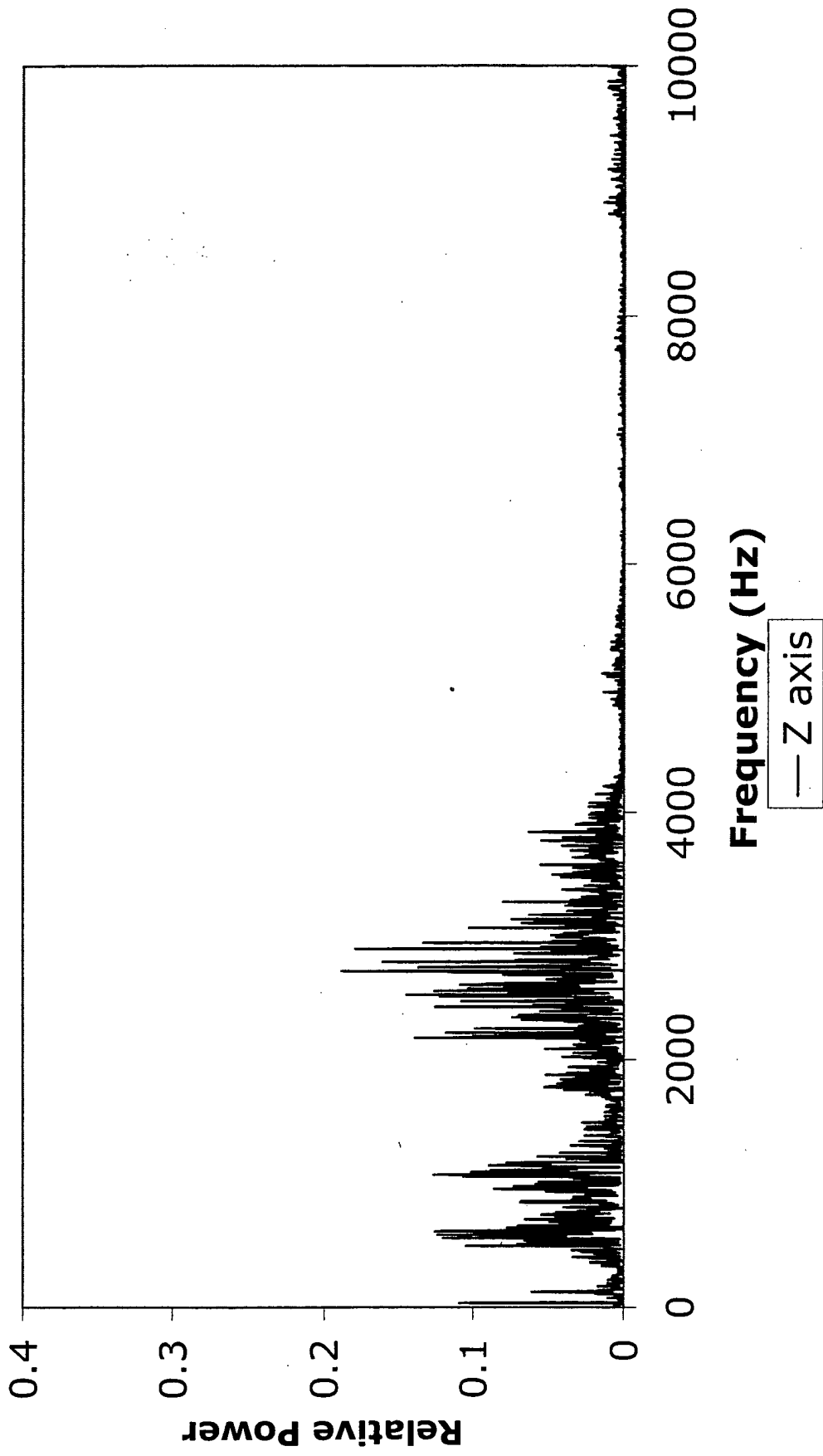
**11010 clogged to 52% flow 300 kPa**



— Y axis

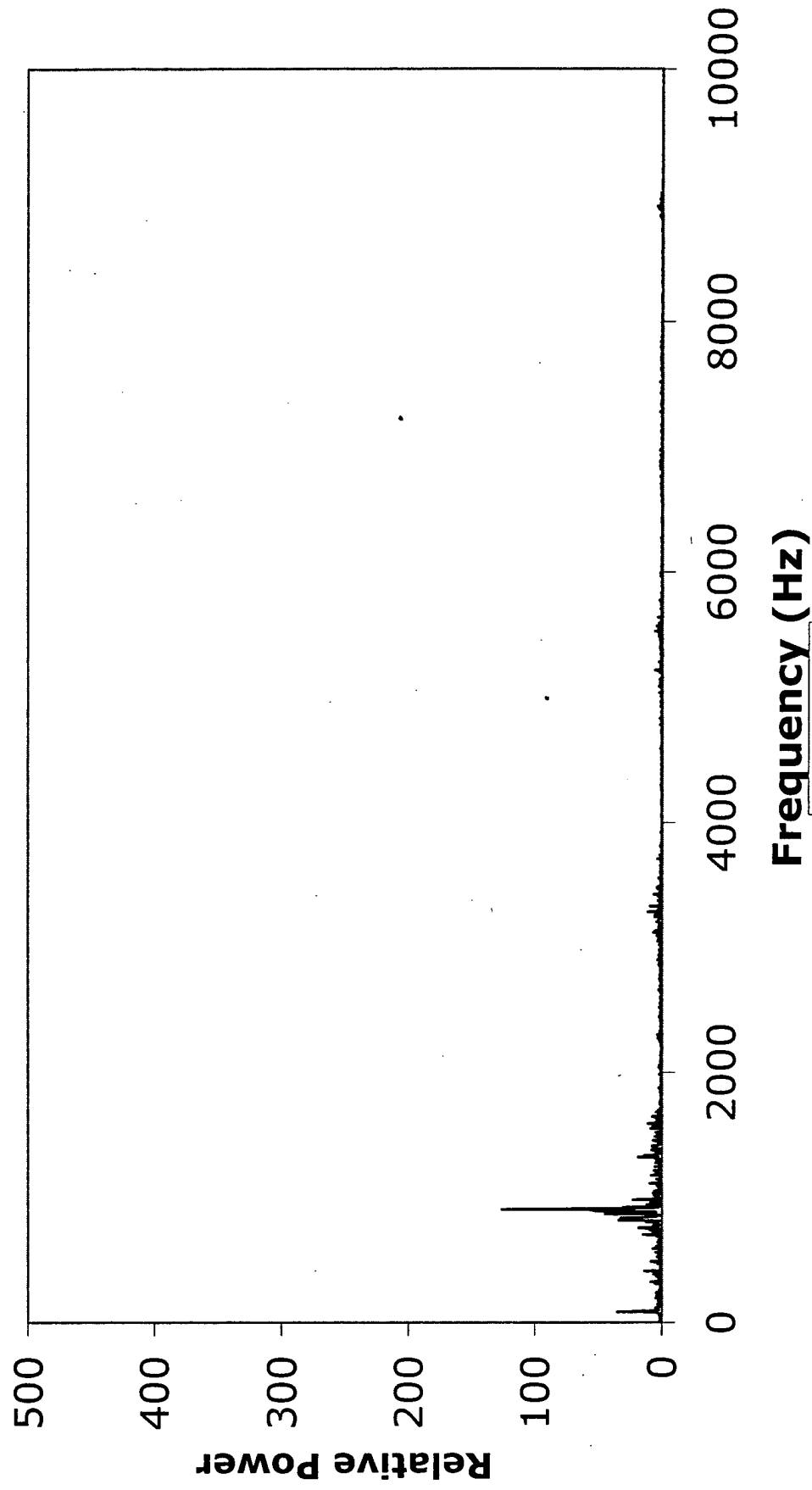
**Figure 6H**

**11010 clogged to 52% flow 300 kPa**



**Figure 6I**

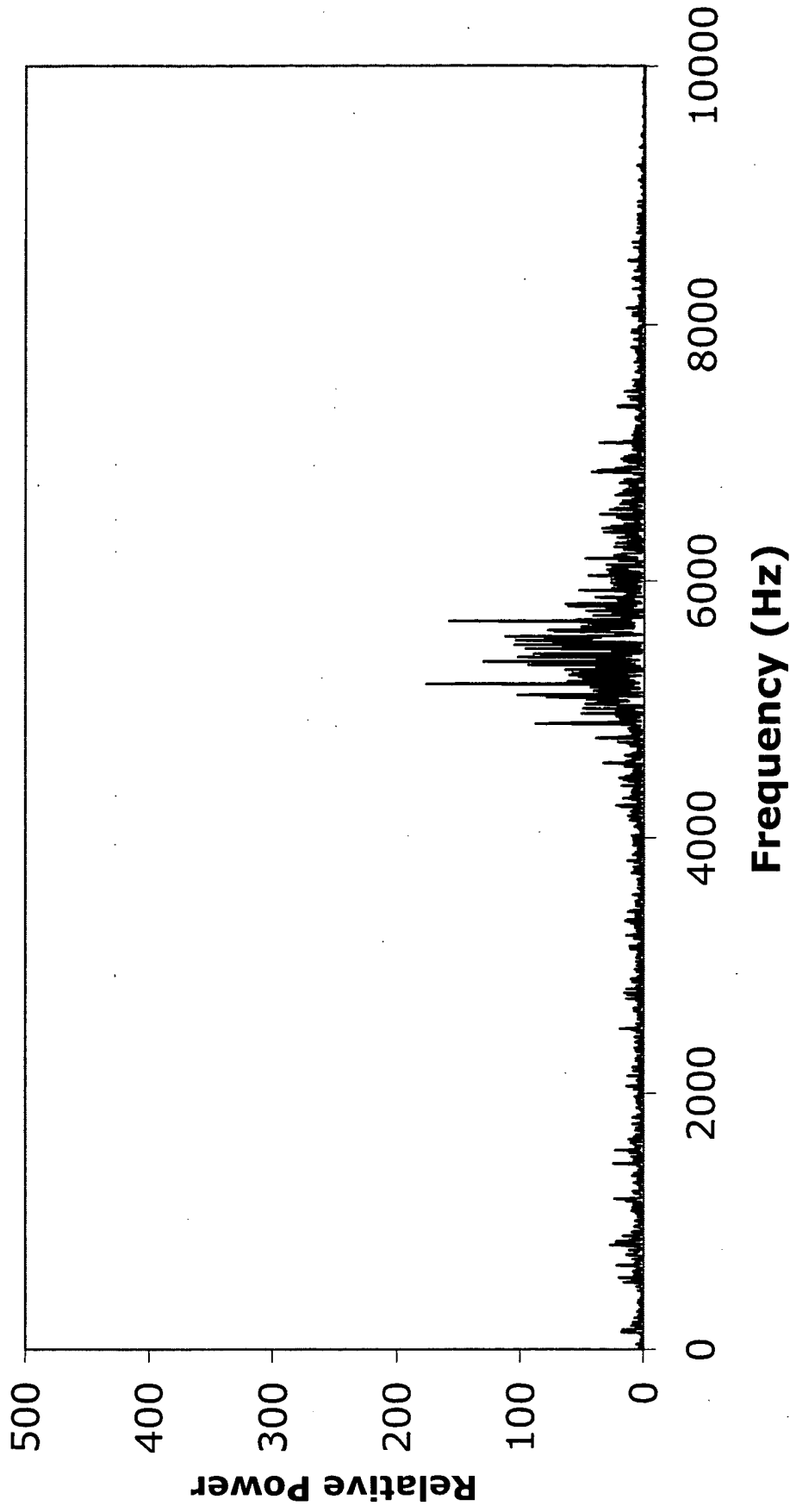
# 11008 AI nozzle normal flow 300 kPa



— X axis

Figure 6J

# 11008 AI nozzle normal flow 300 kPa



— Y axis

Figure 6K

# 11008 AI nozzle normal flow 300 kPa

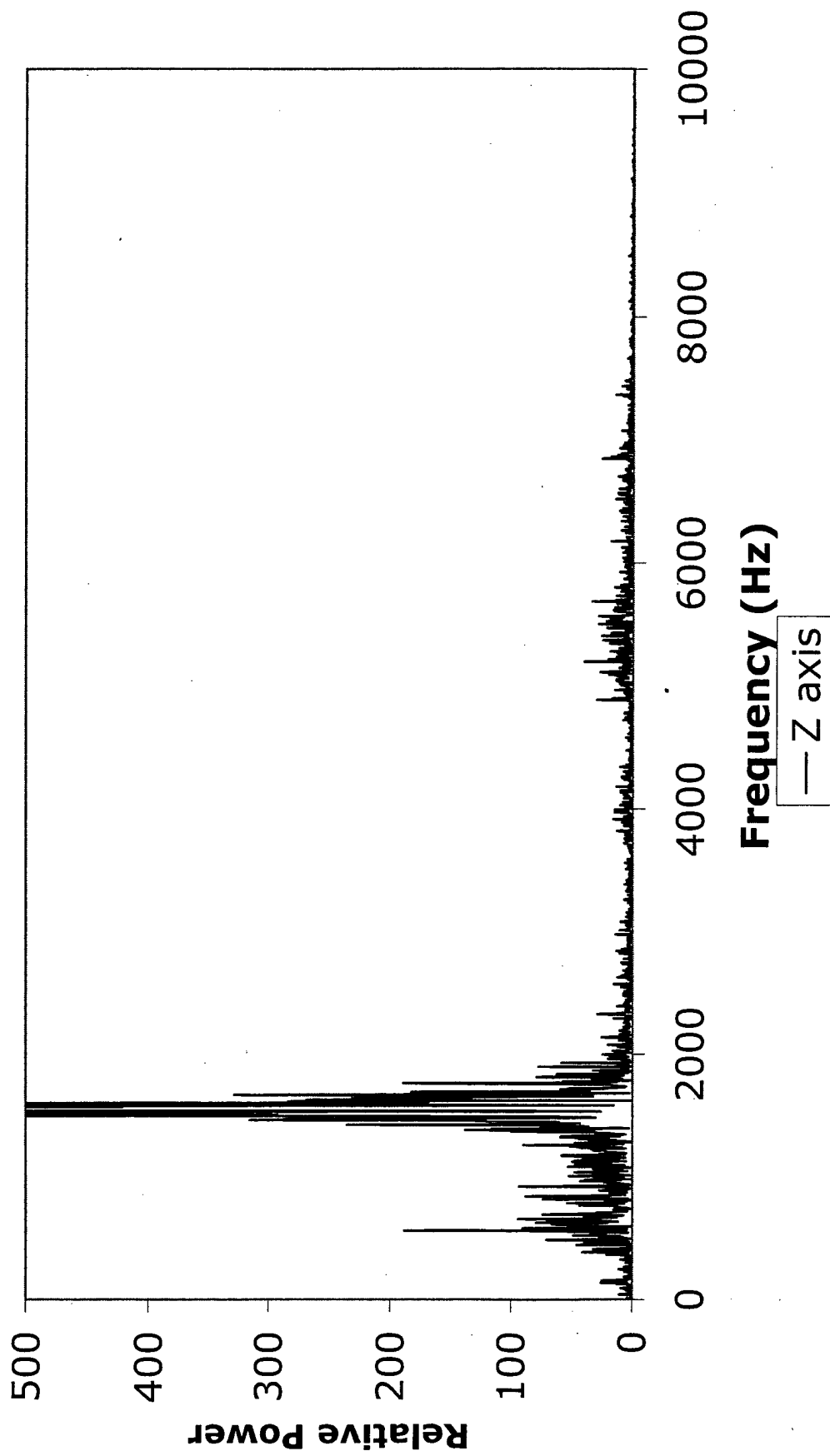
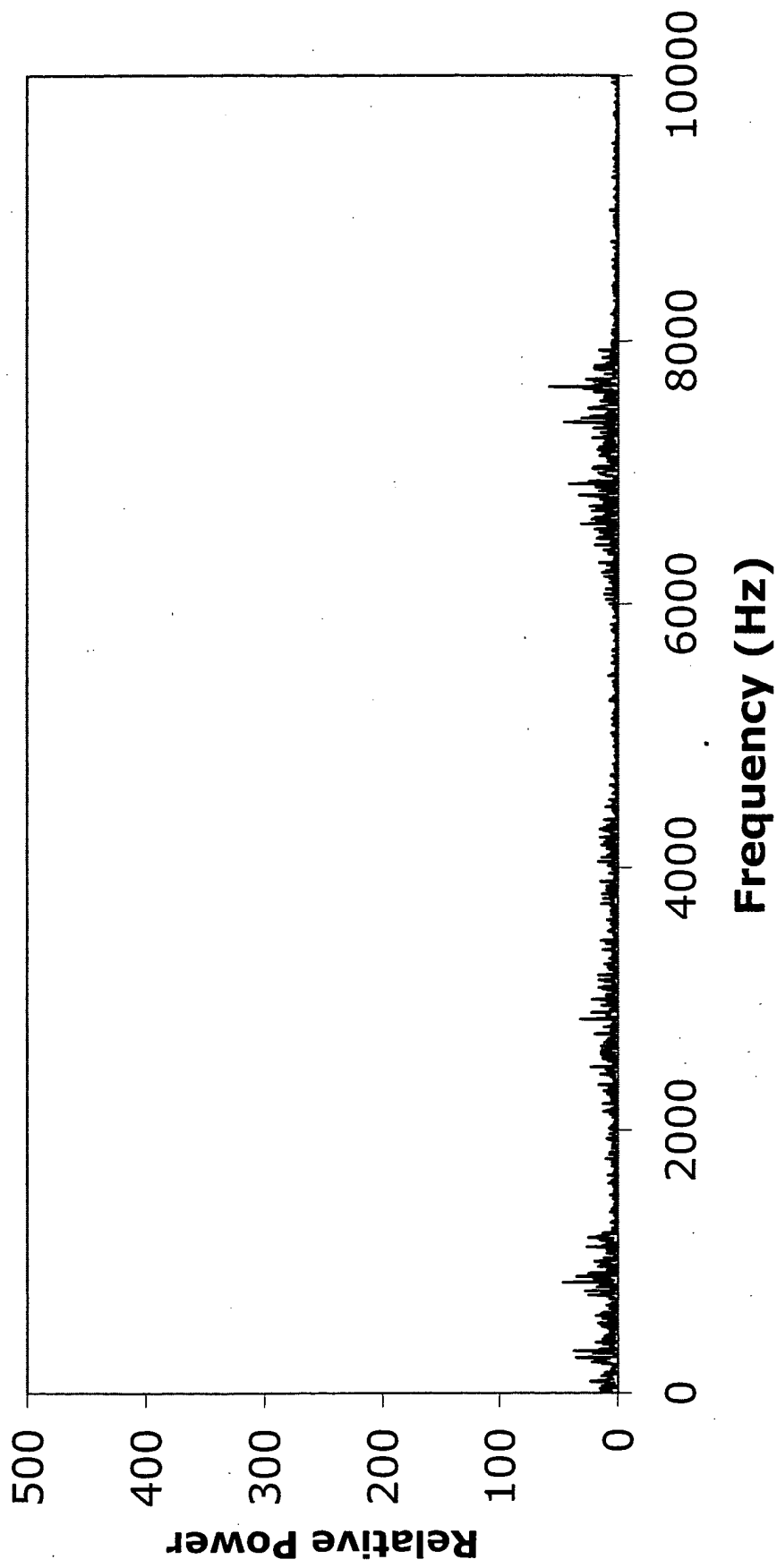


Figure 6L

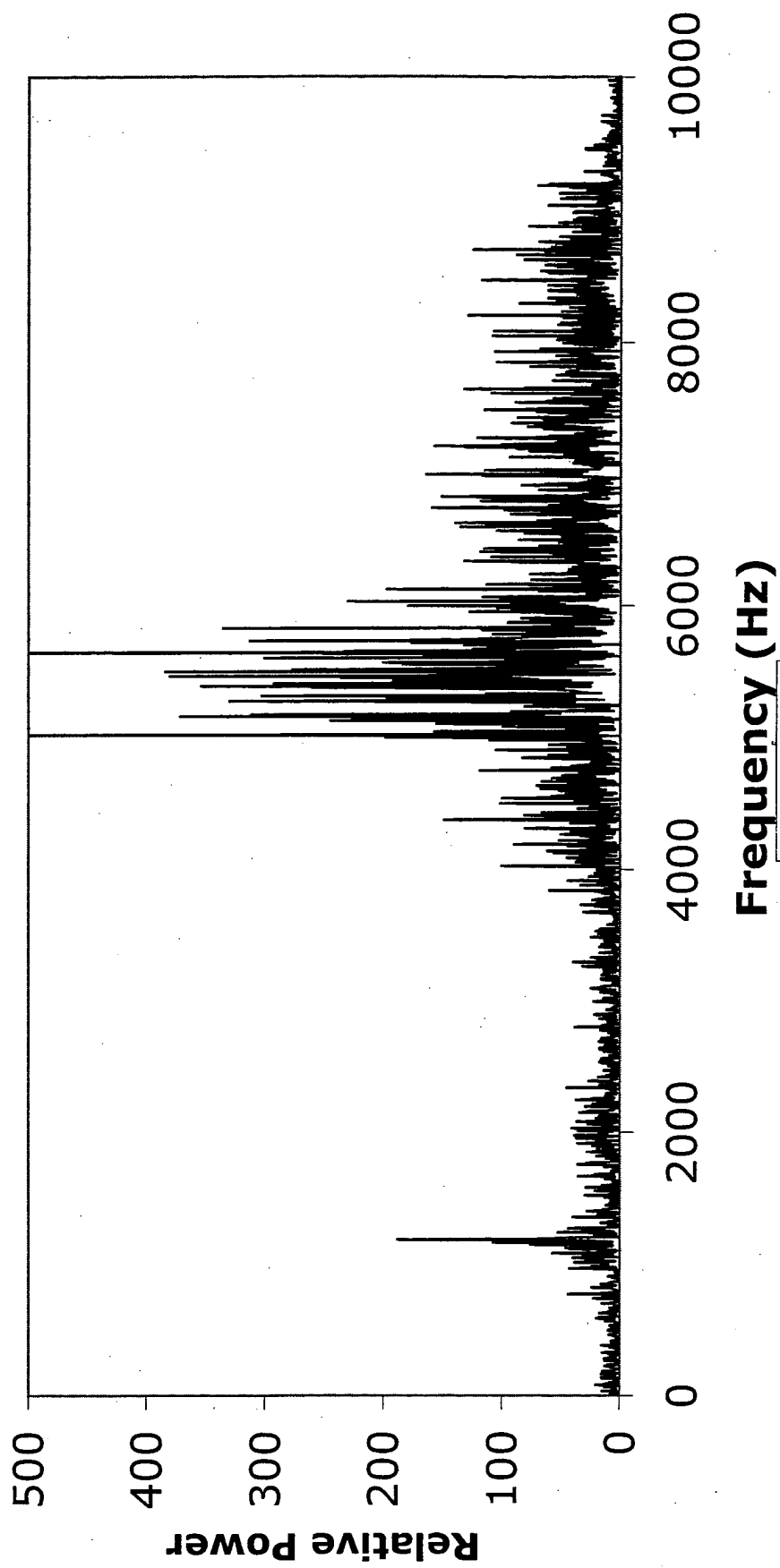
**11008 AI nozzle plugged 113% flow  
300 kPa**



— X axis

**Figure 6M**

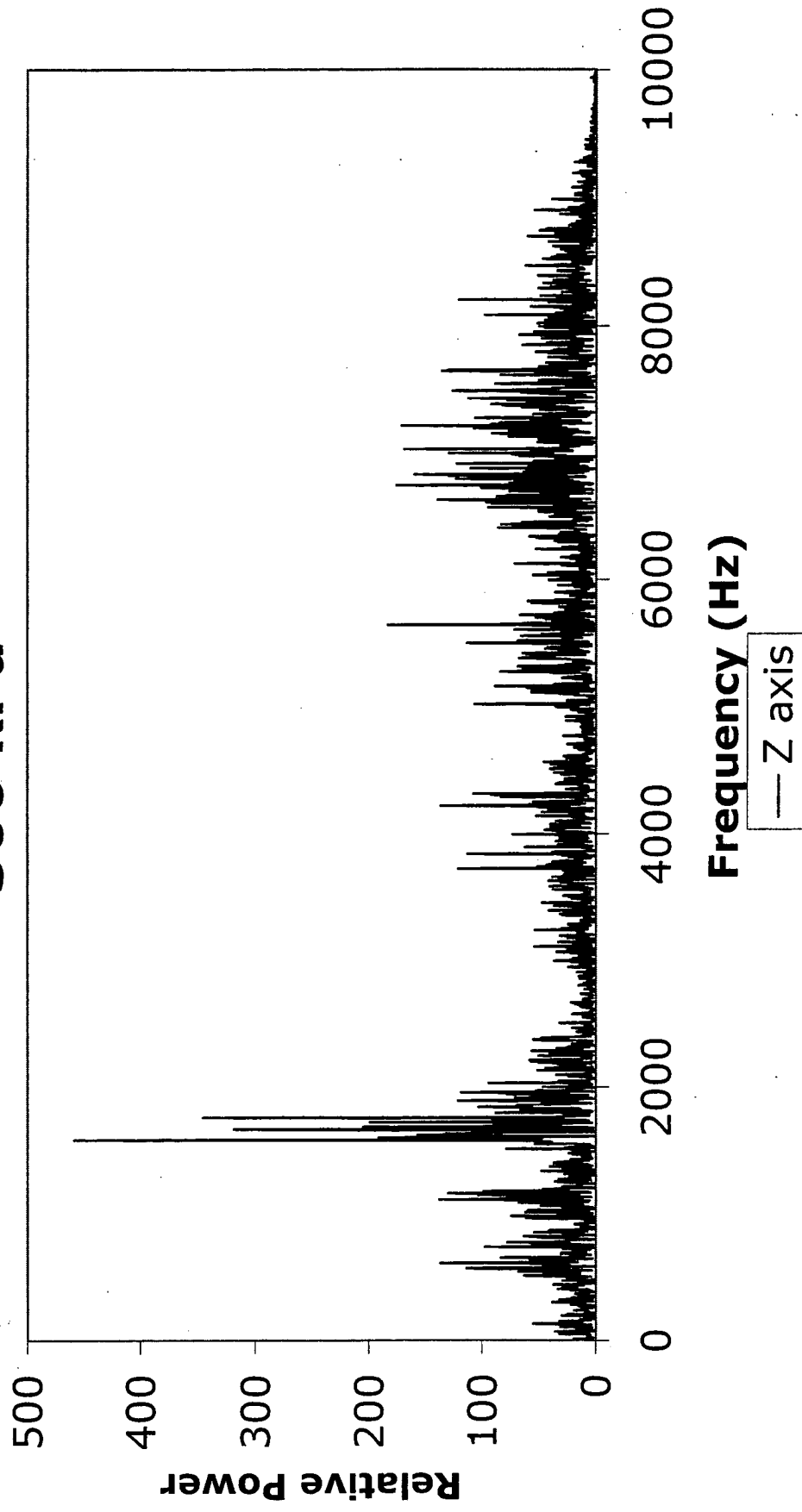
# 11008 AI nozzle plugged 113% flow 300 kPa



— Y axis

Figure 6N

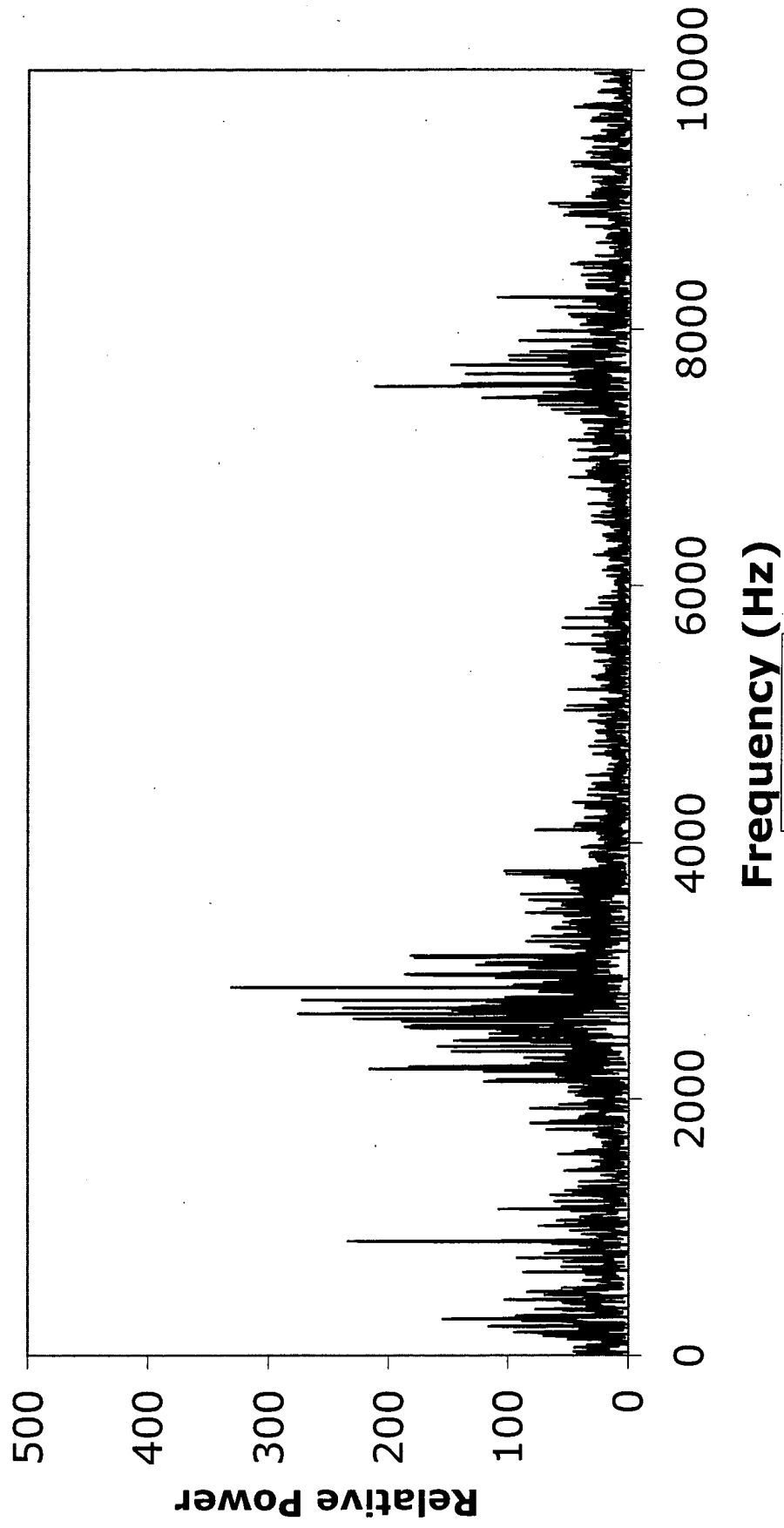
**11008 AI nozzle plugged 113% flow  
300 kPa**



**Figure 60**



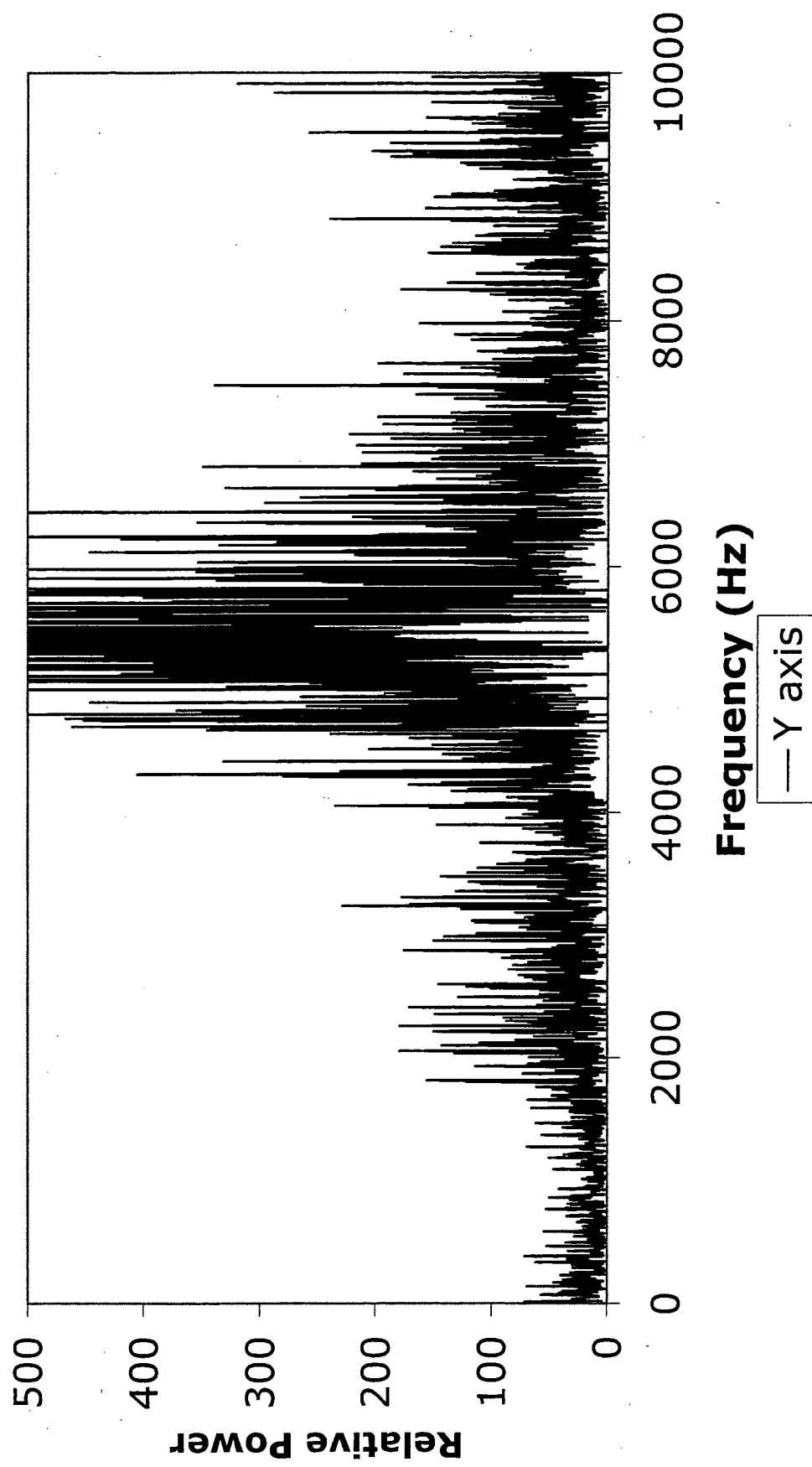
**11008 AI nozzle plugged to 114% flow  
300 kPa**



— X axis

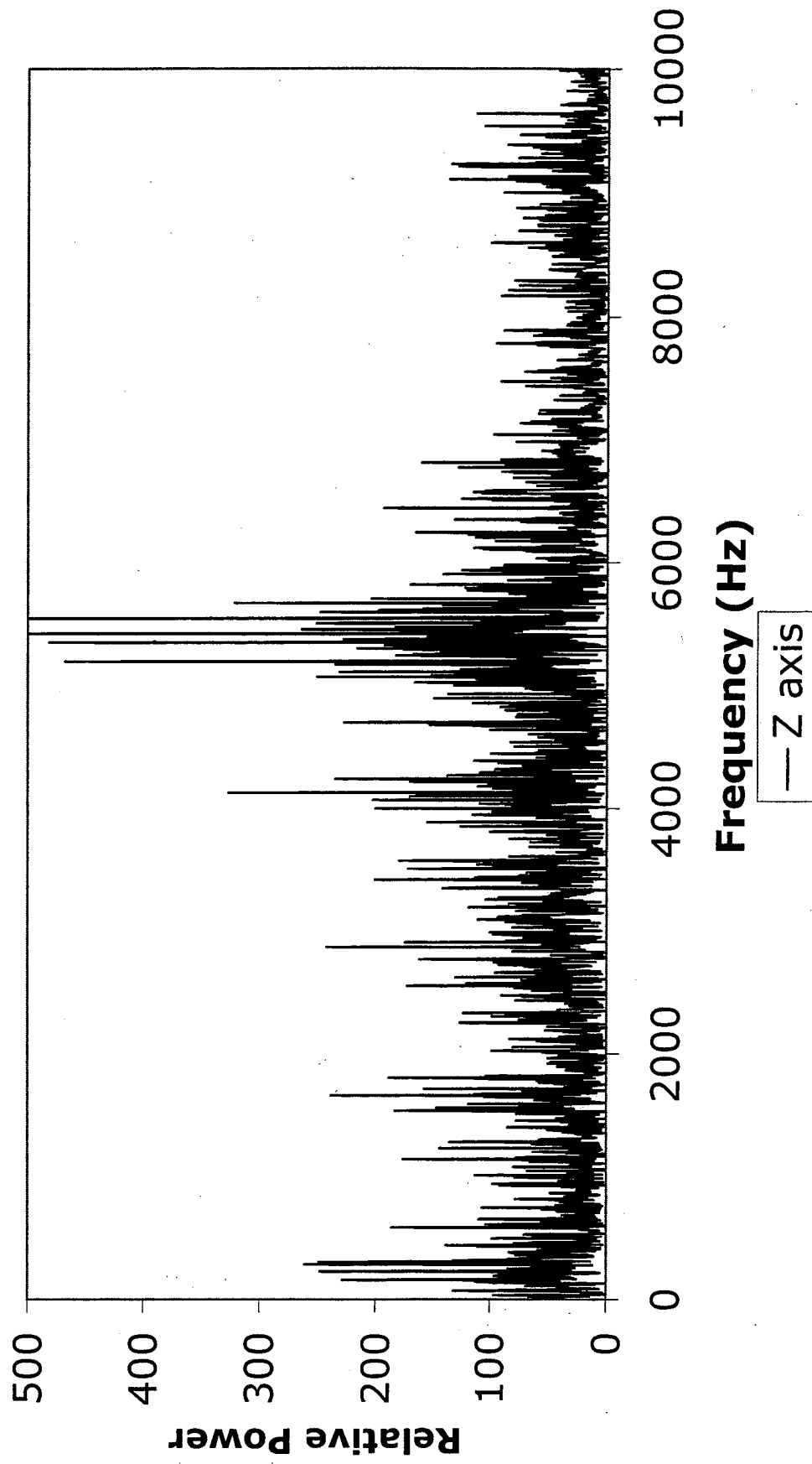
**Figure 6P**

**11008 AI nozzle plugged to 114% flow  
300 kPa**



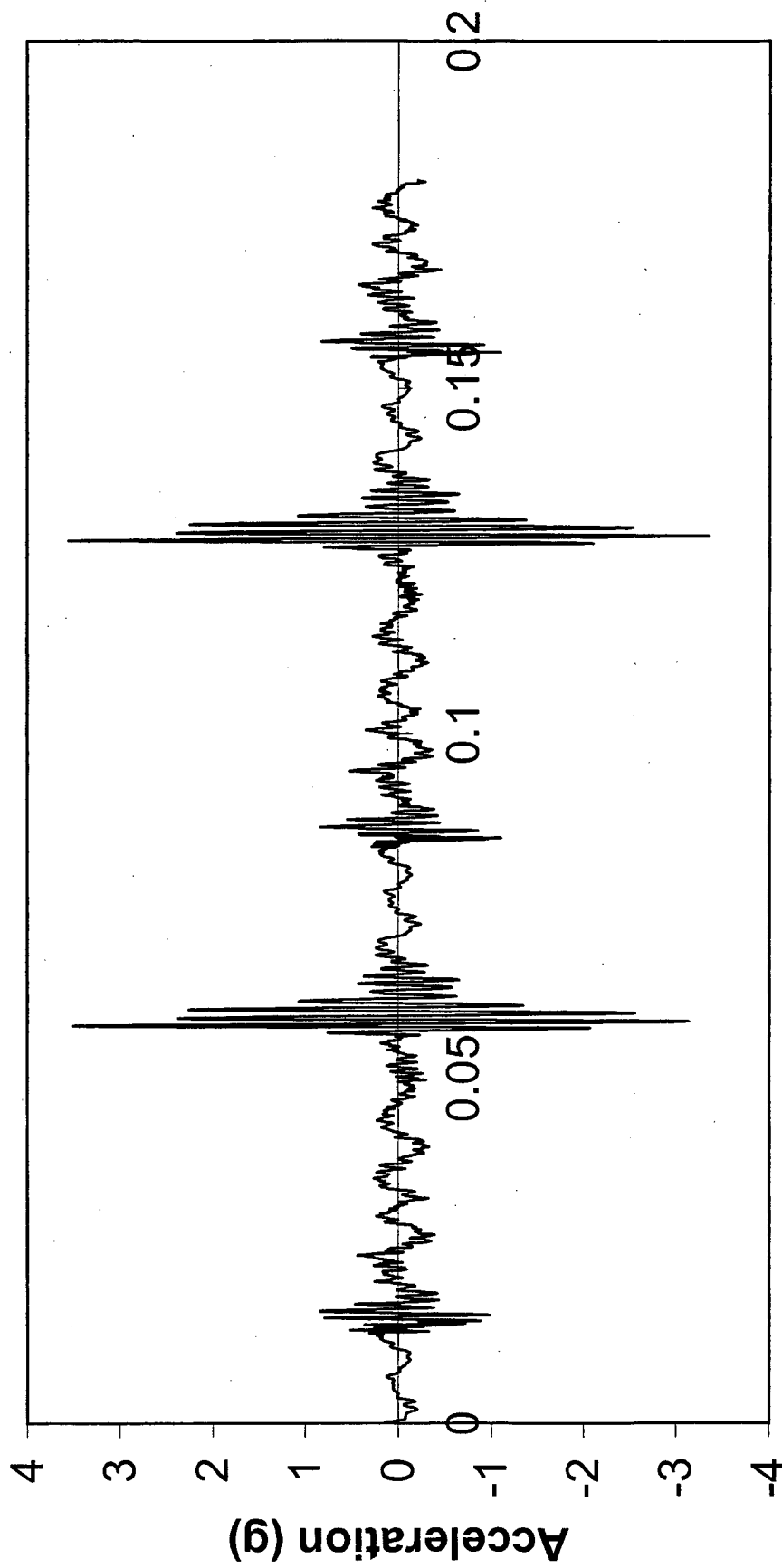
**Figure 6Q**

**11008 AI nozzle plugged to 114% flow  
300 kPa**



**Figure 6R**

**8008 nozzle 15 Hz 60% dc 300 kPa**

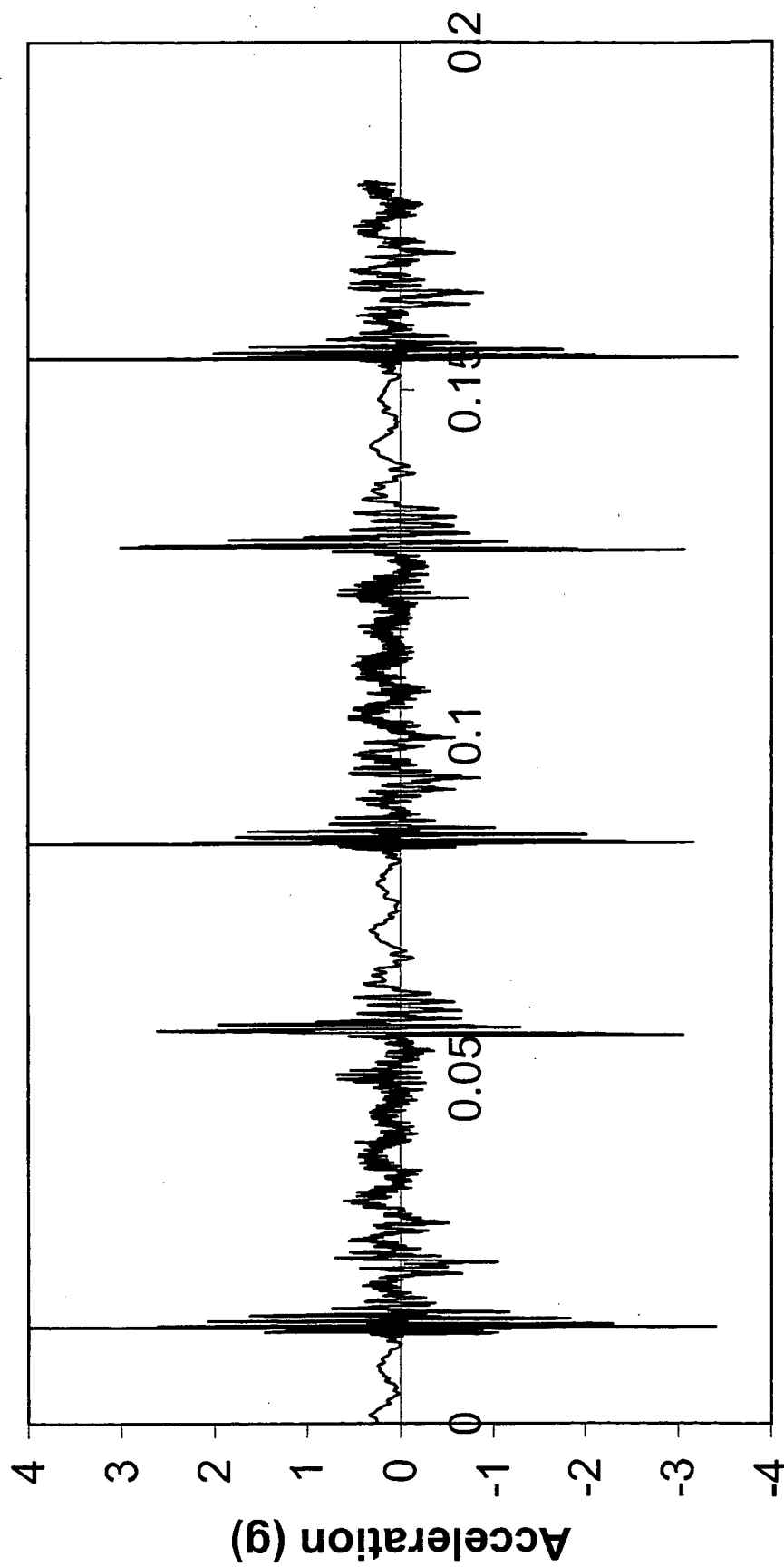


**Time (s)**

— X-axis

**Figure 7A**

# 8008 nozzle 15 Hz 60% dc 300 kPa

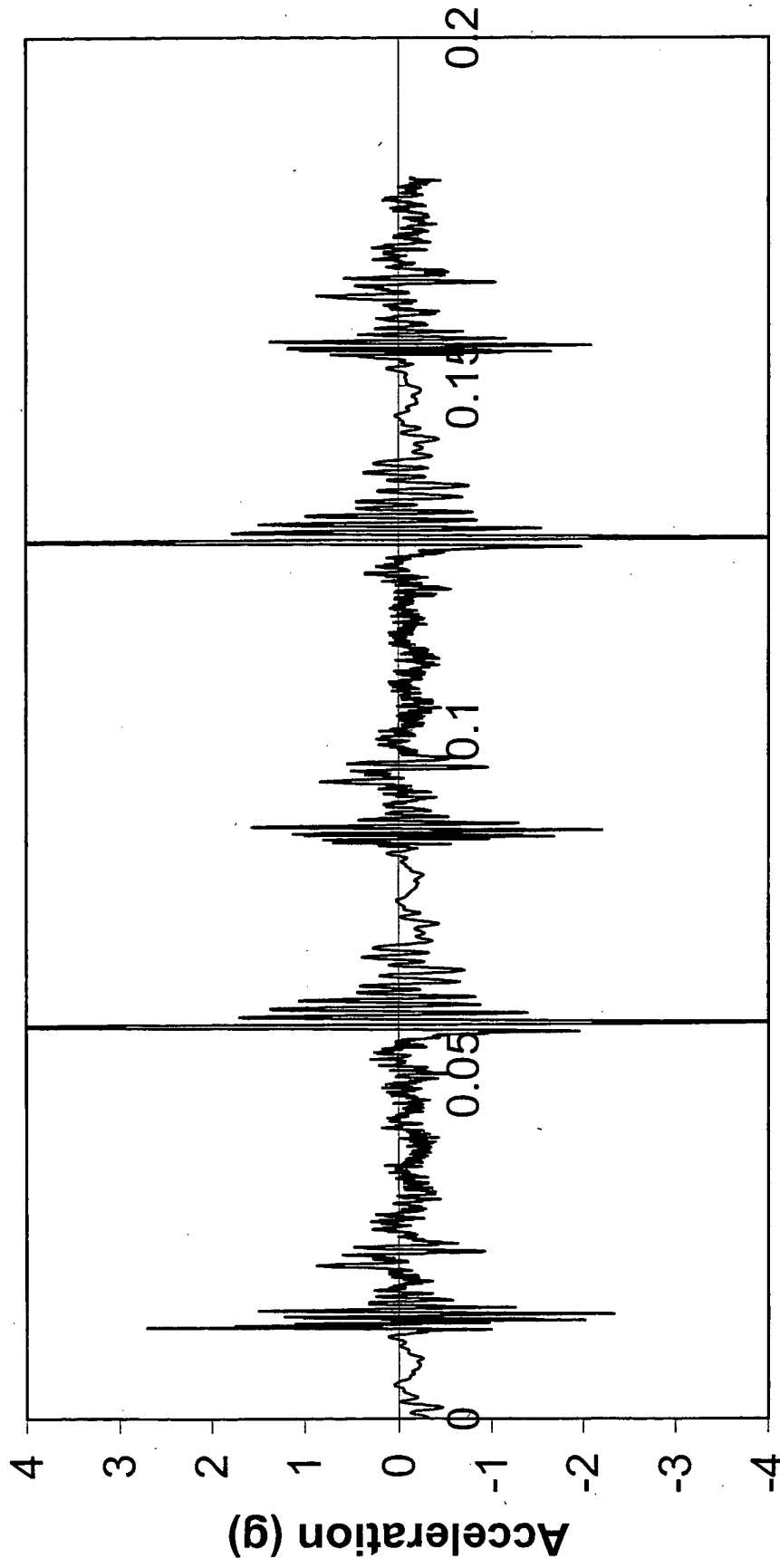


Time (s)

— Y-axis

Figure 7B

8008 nozzle 15 Hz 60% dc 300 kPa

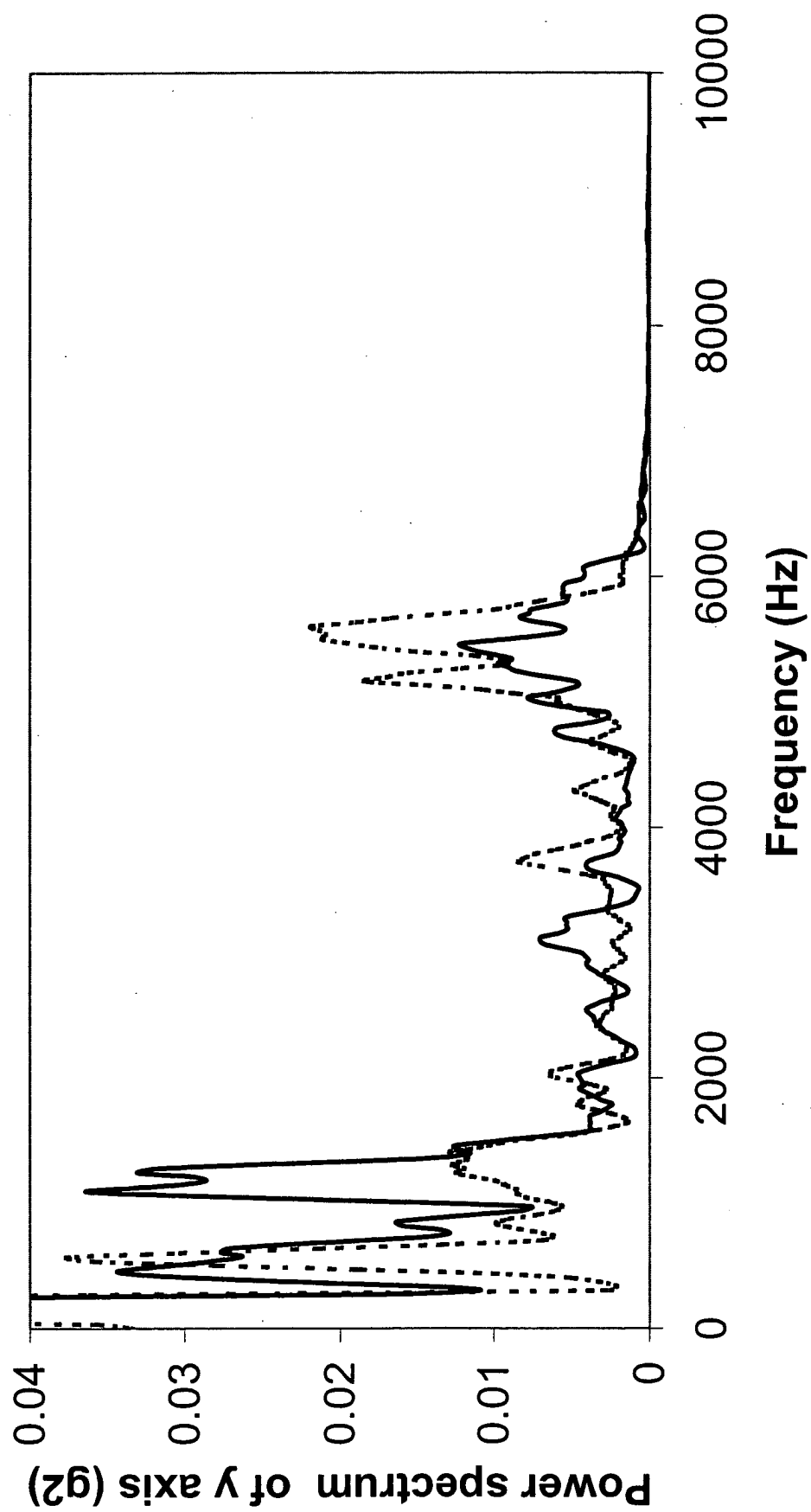


Time (s)

— Z-axis

Figure 7C

**8008 300 kPa 15 Hz 60% dc  
on periods**



**Figure 7D**

8008 300 kPa 15 Hz 60% dc  
off periods

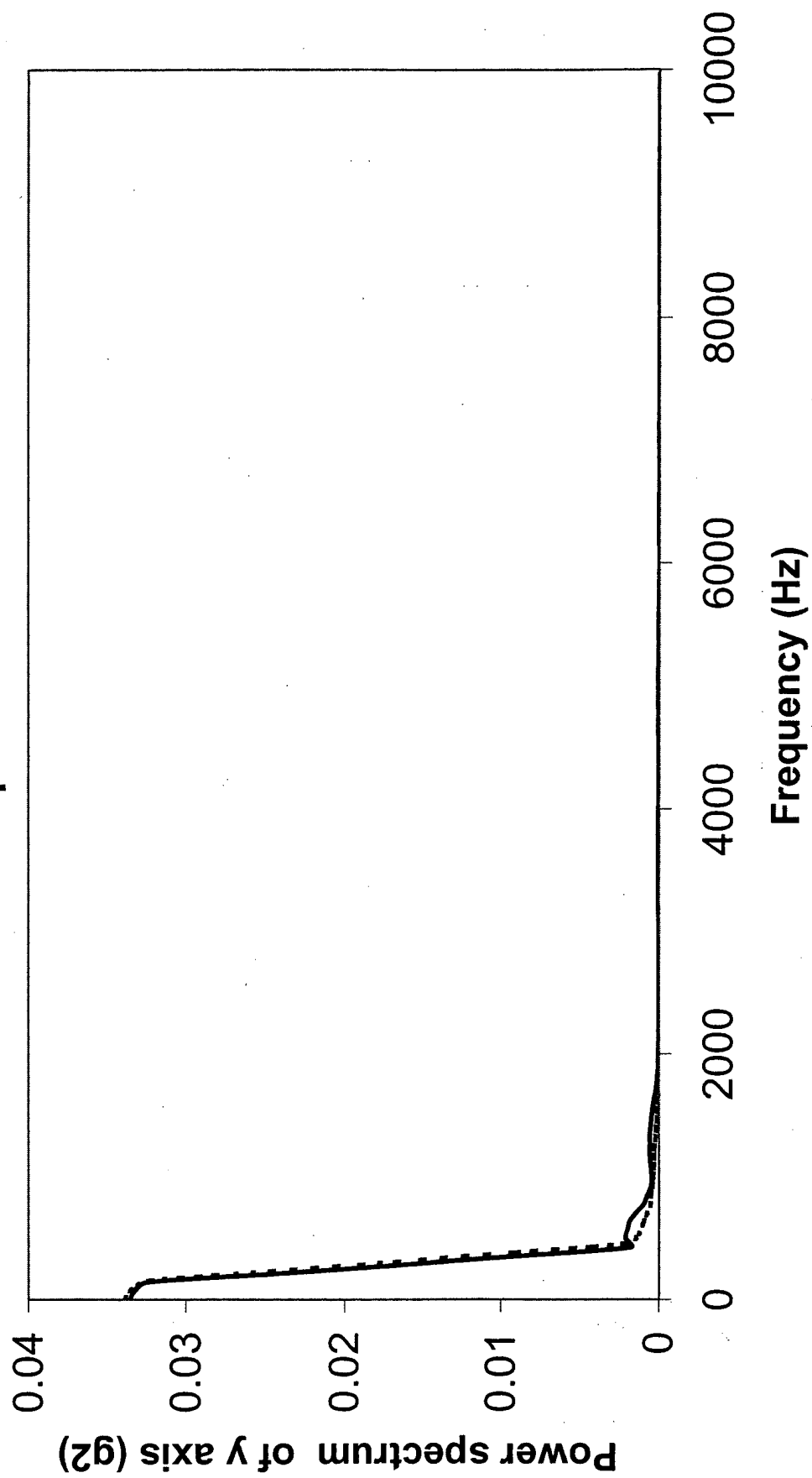
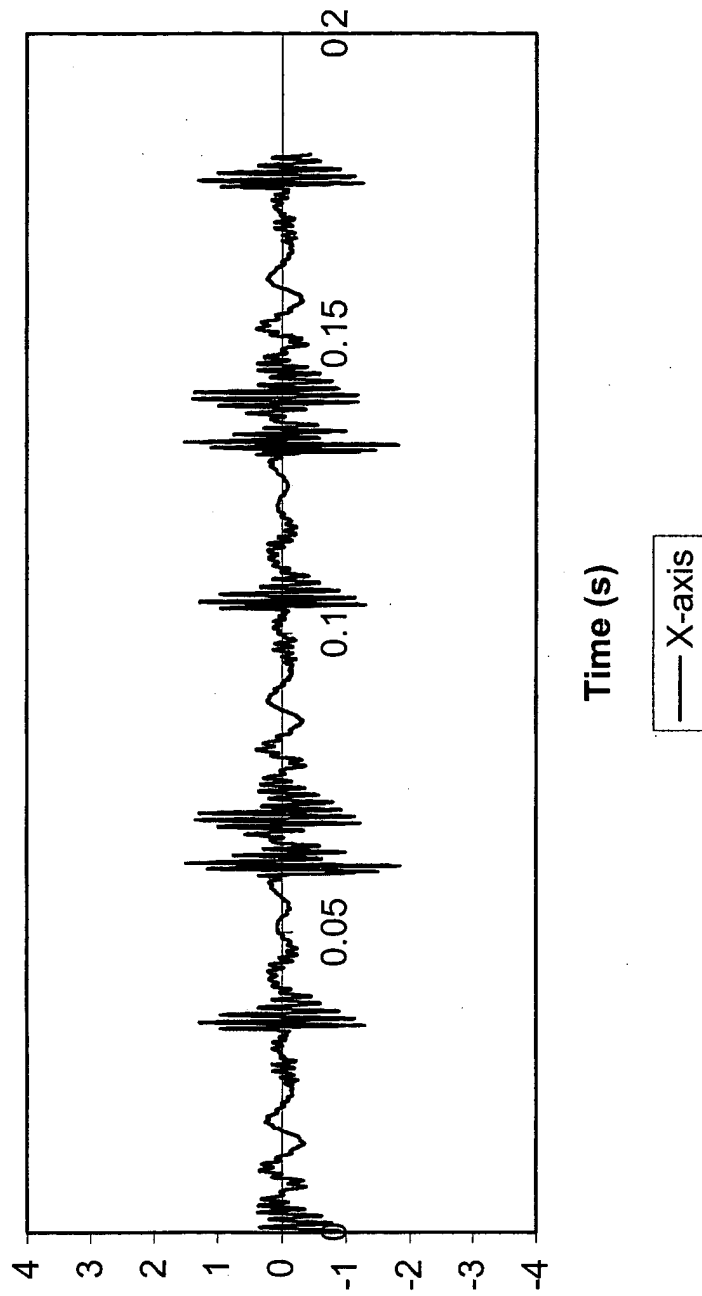


Figure 7E

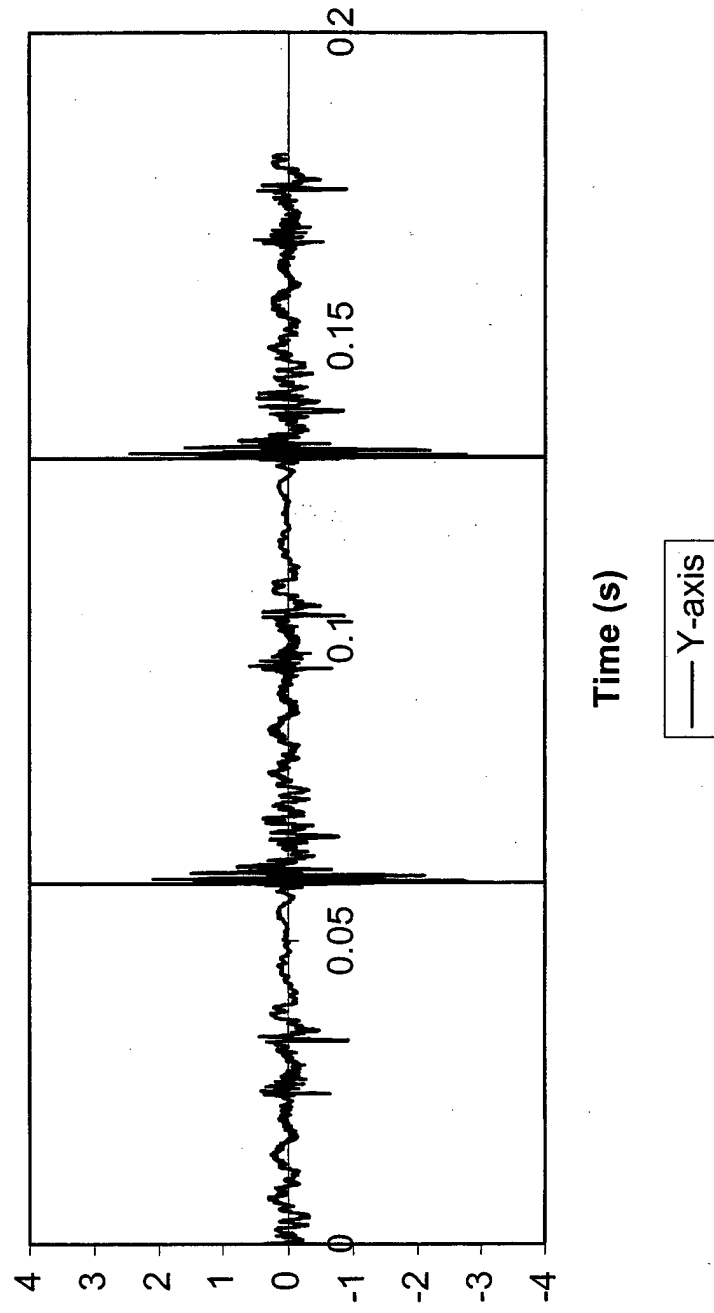


**8001 nozzle 15 Hz 60% dc 300 kPa**



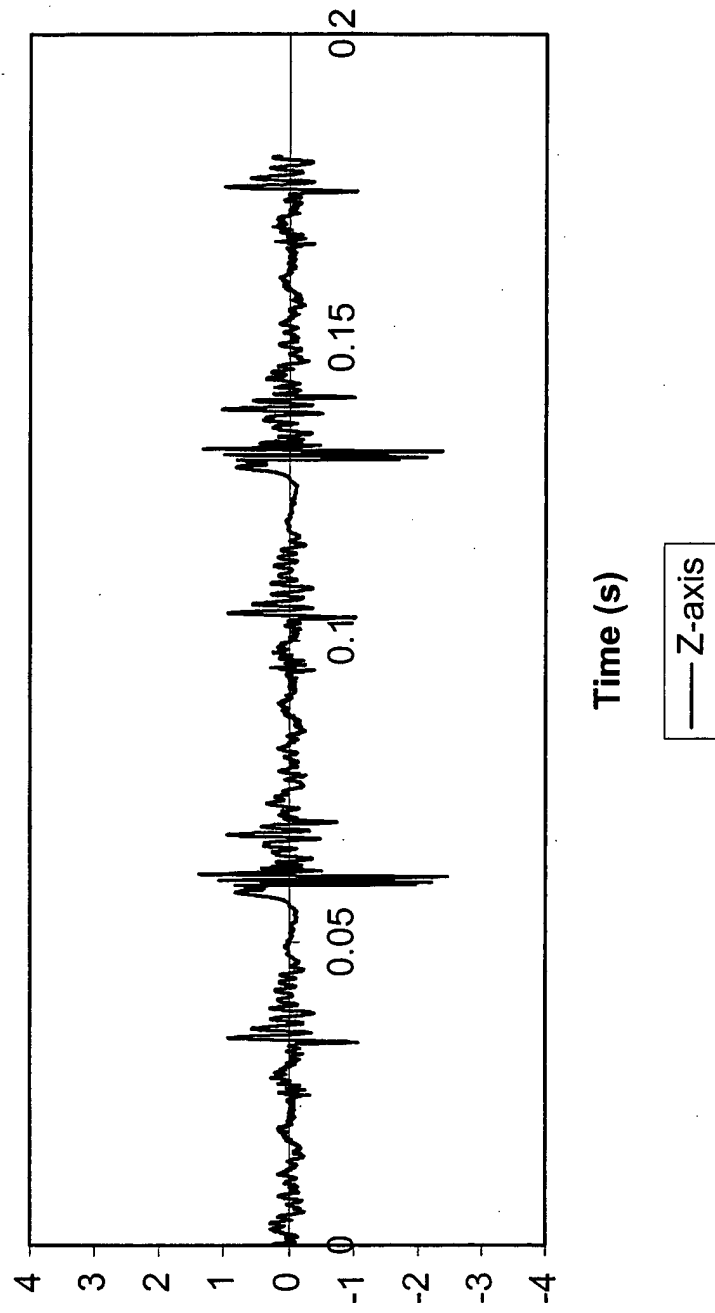
**Figure 7F**

**8001 nozzle 15 Hz 60% dc 300 kPa**



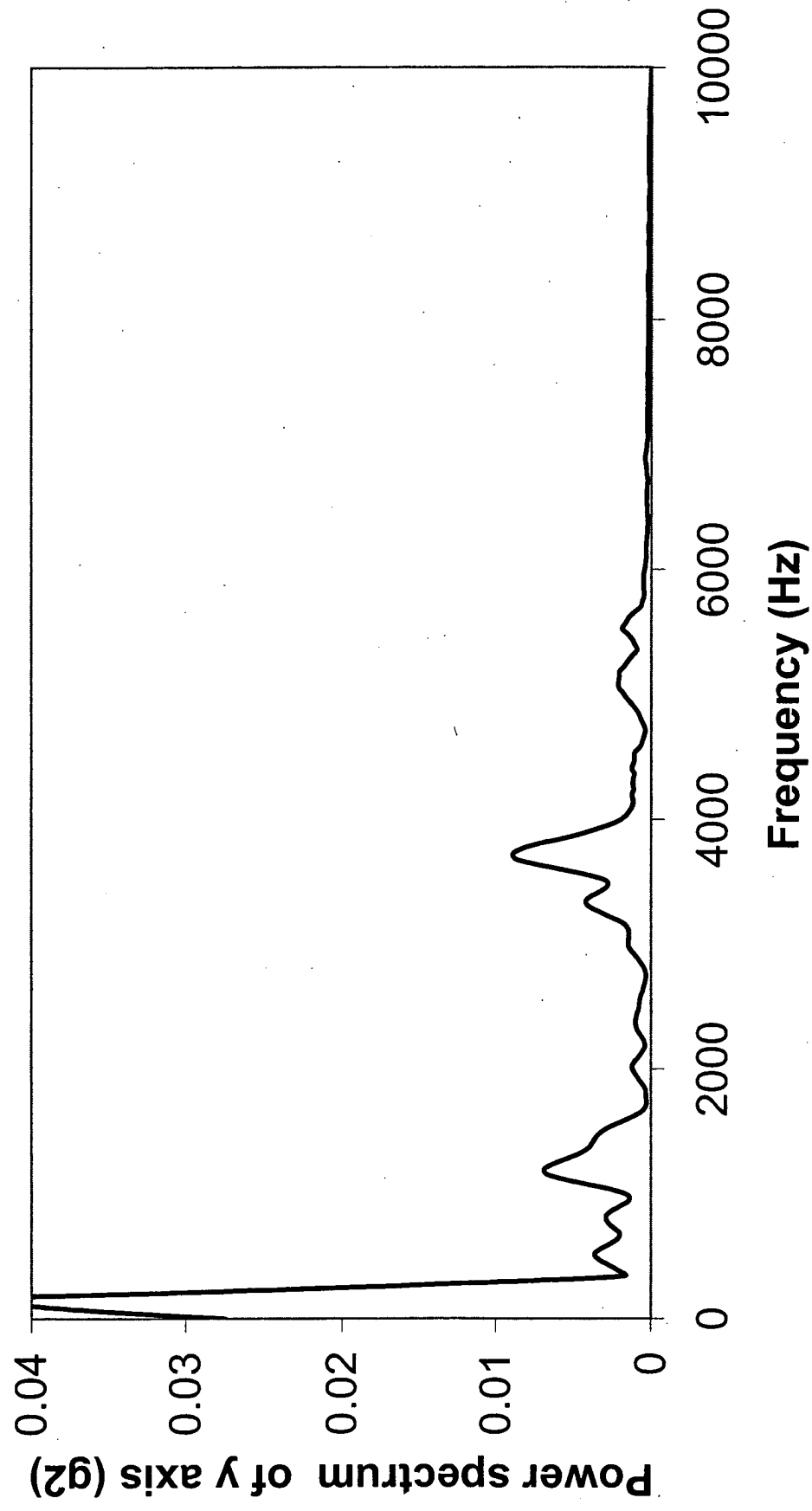
**Figure 7G**

**8001 nozzle 15 Hz 60% dc 300 kPa**



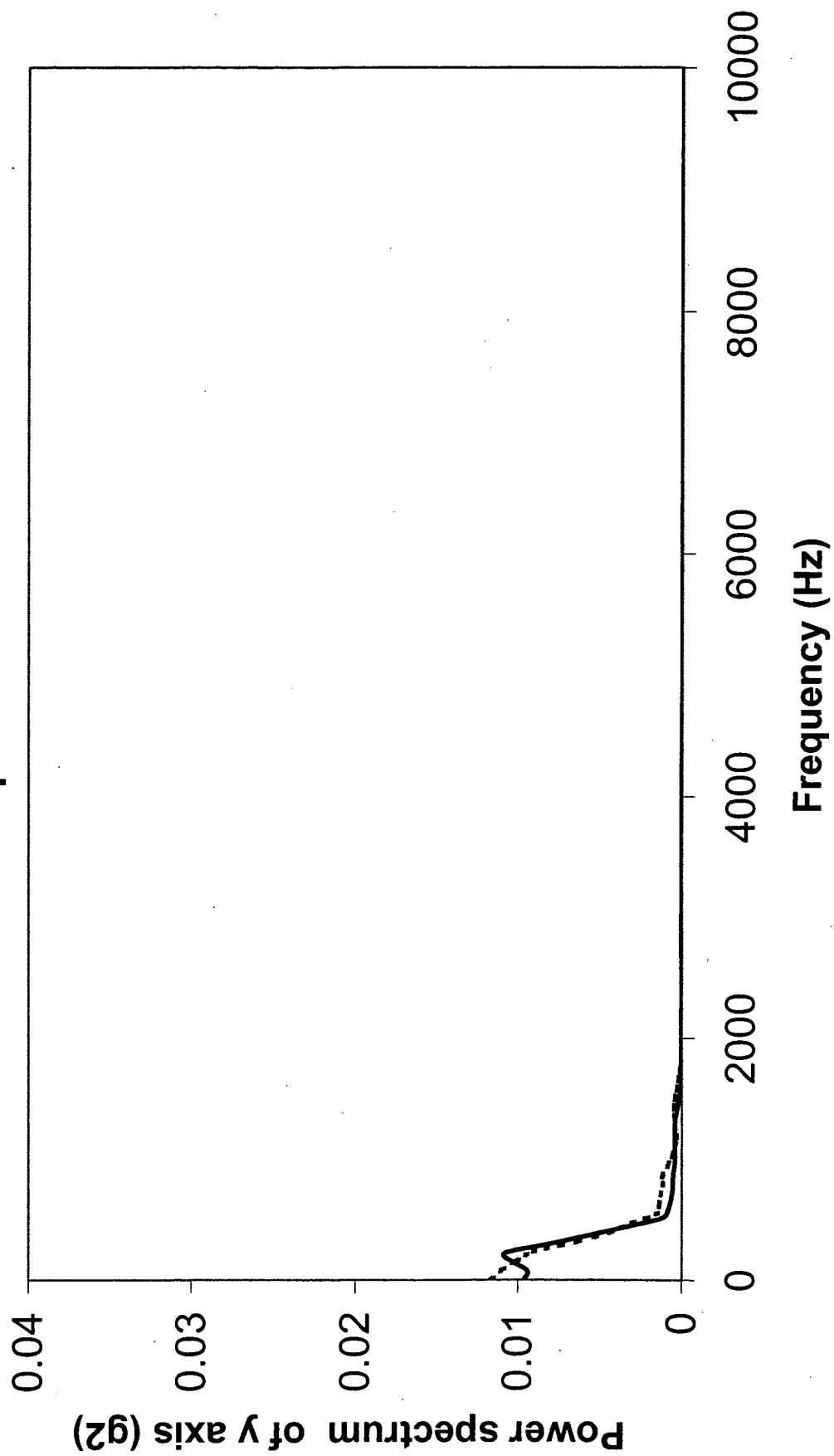
**Figure 7H**

**8001 300 kPa 15 Hz 60% dc  
on periods**



**Figure 7I**

**8001 300 kPa 15 Hz 60% dc  
off periods**



**Figure 7J**

8008 nozzle 15 Hz 60% dc zero flow 0 kPa

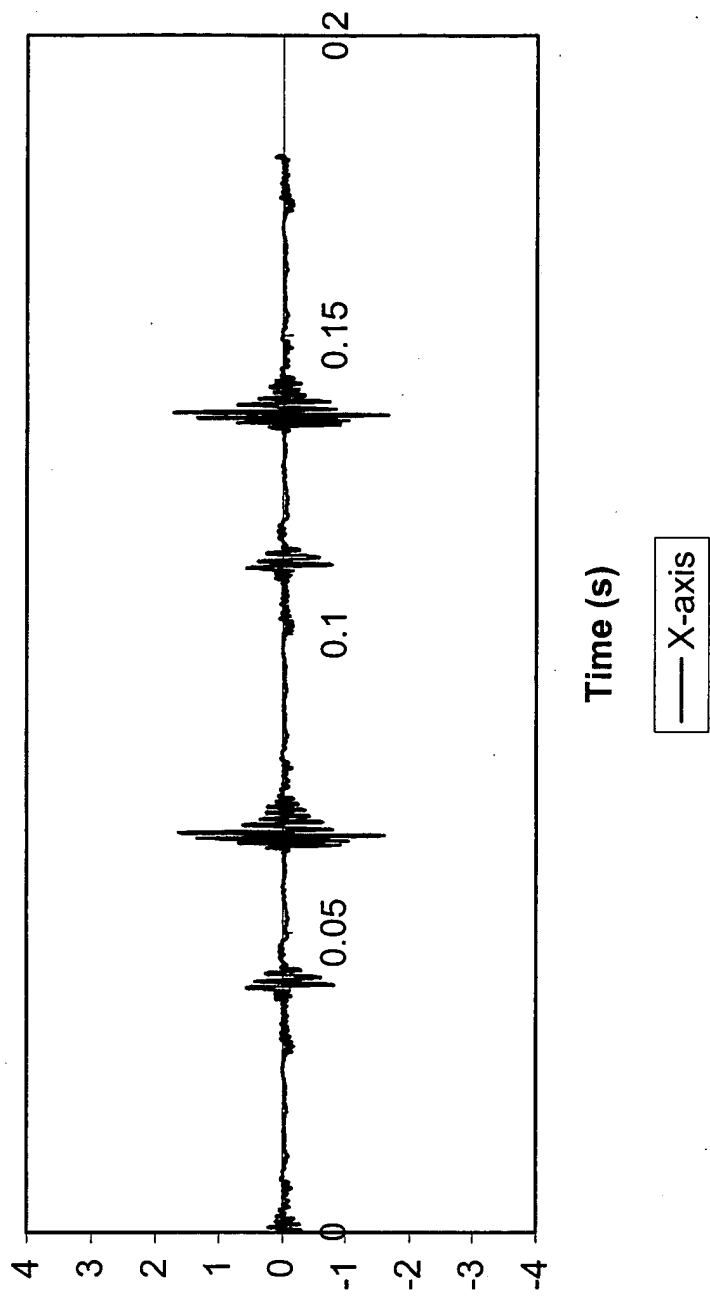
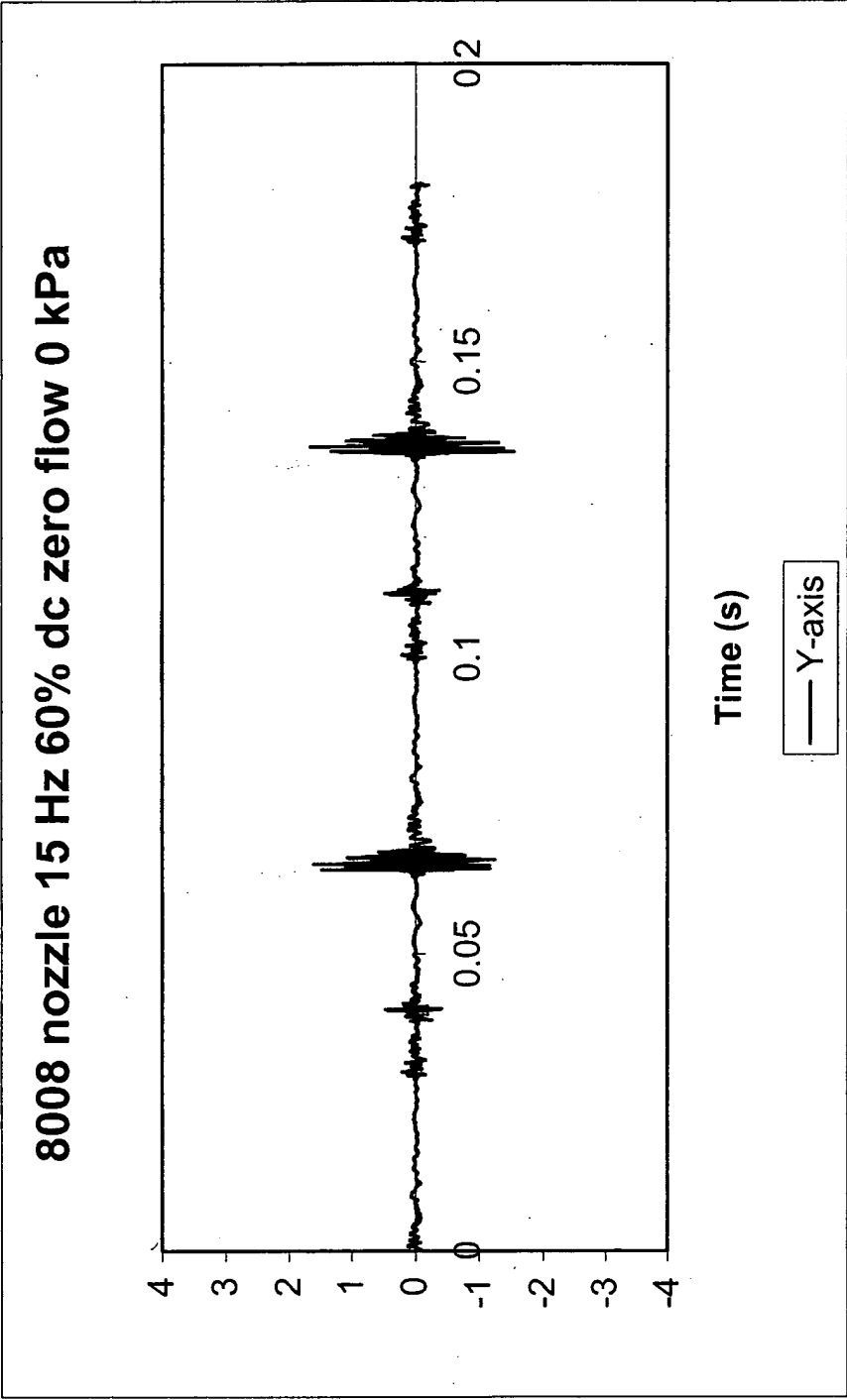


Figure 8A



**Figure 8B**

8008 nozzle 15 Hz 60% dc zero flow 0 kPa

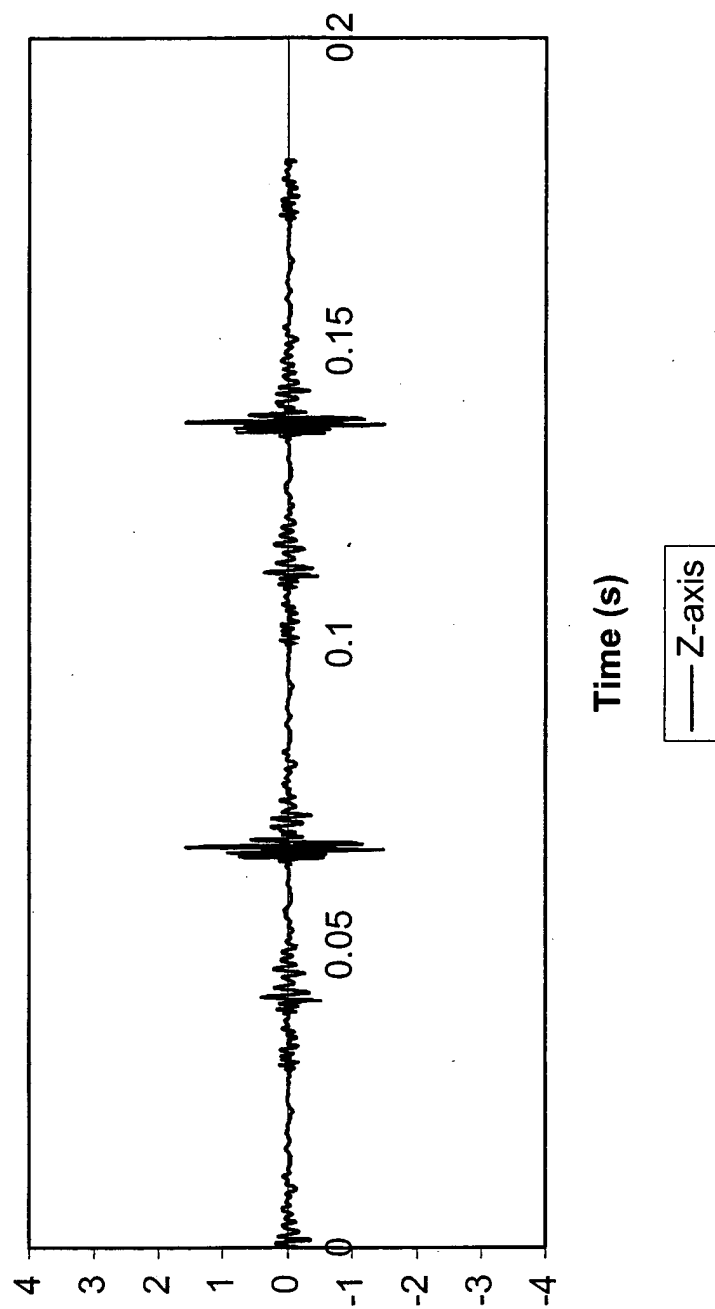
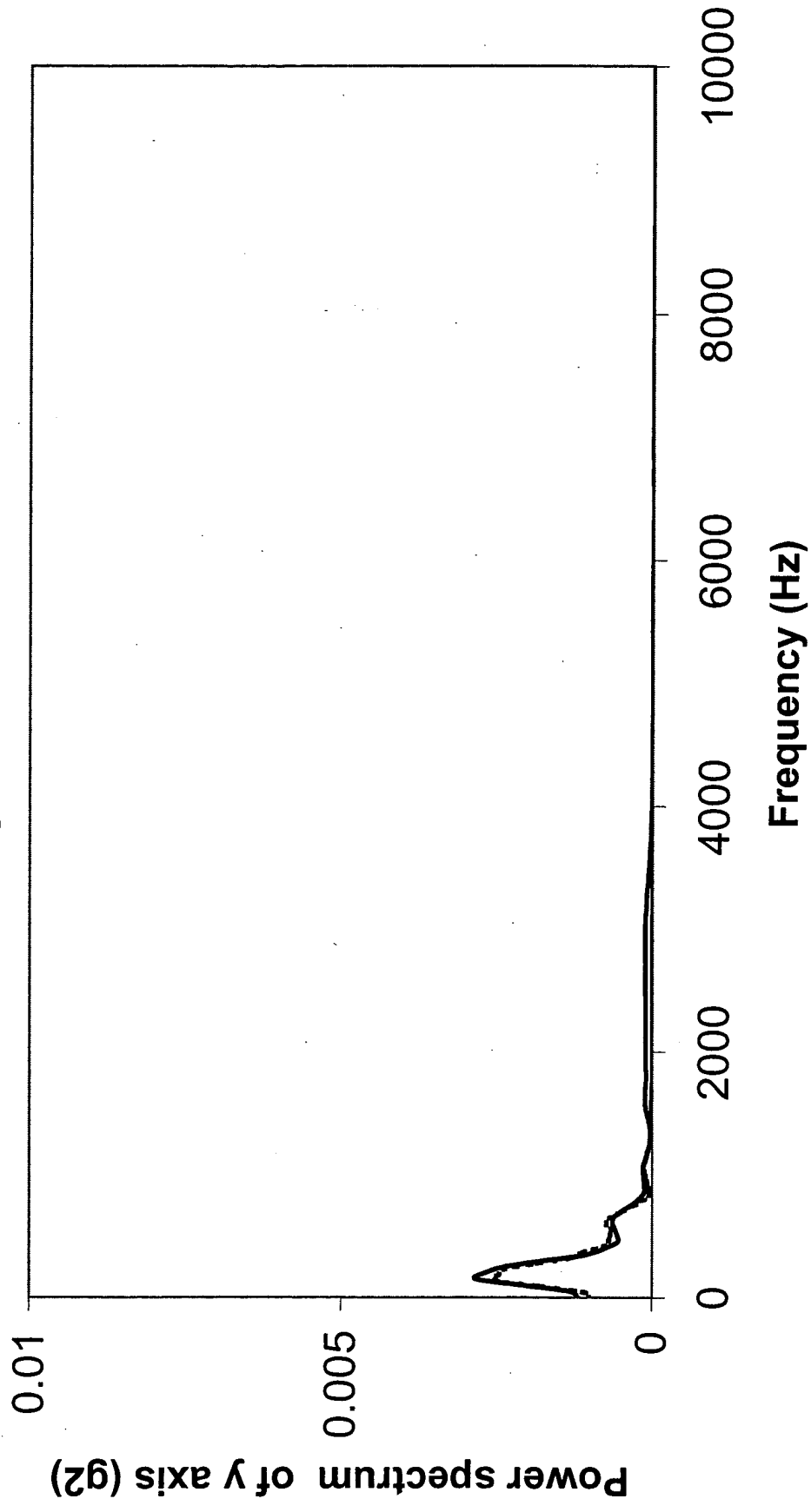


Figure 8C

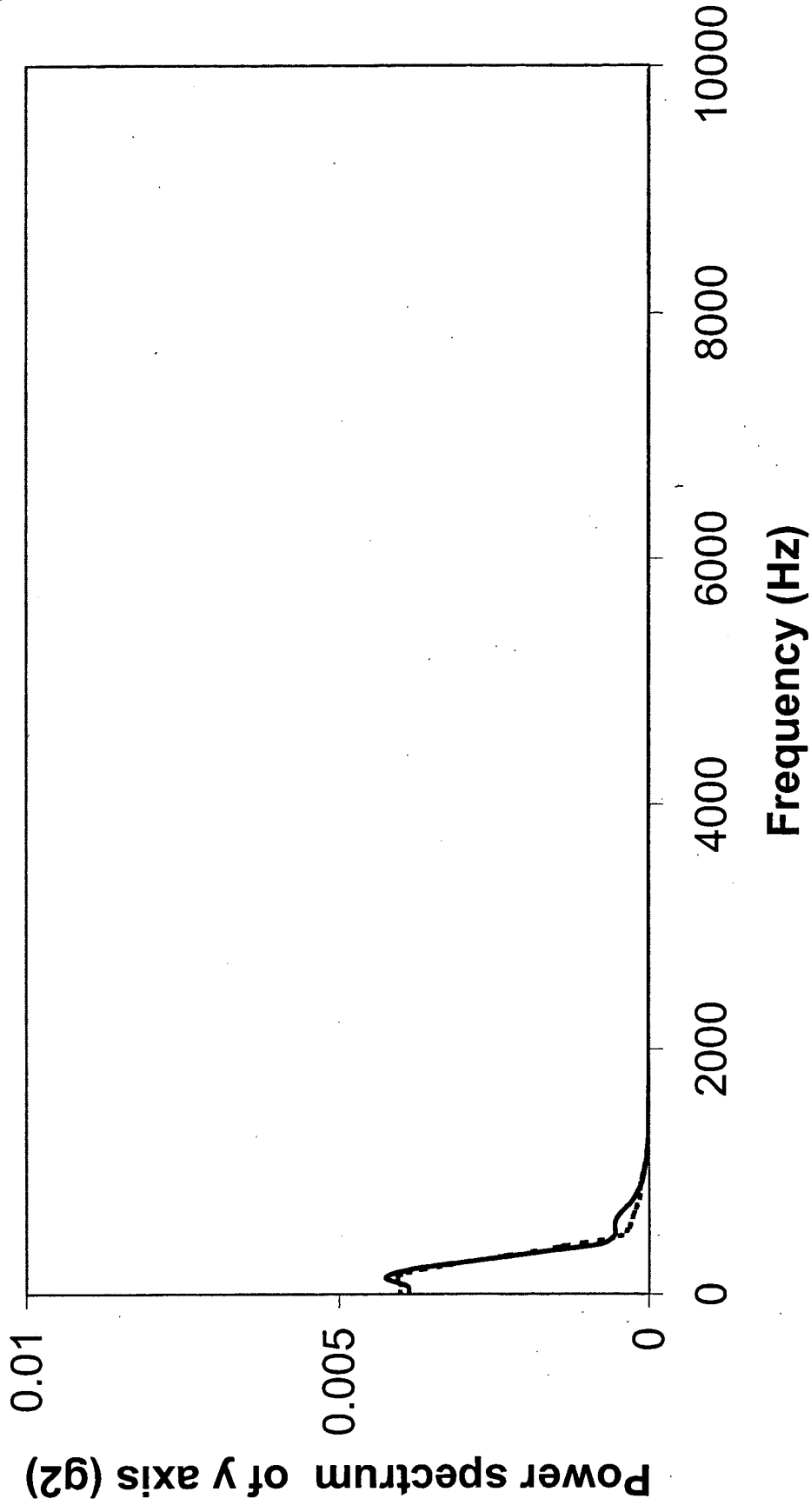


**8008 nozzle 15 Hz 60% dc zero flow 0 kPa  
on periods**



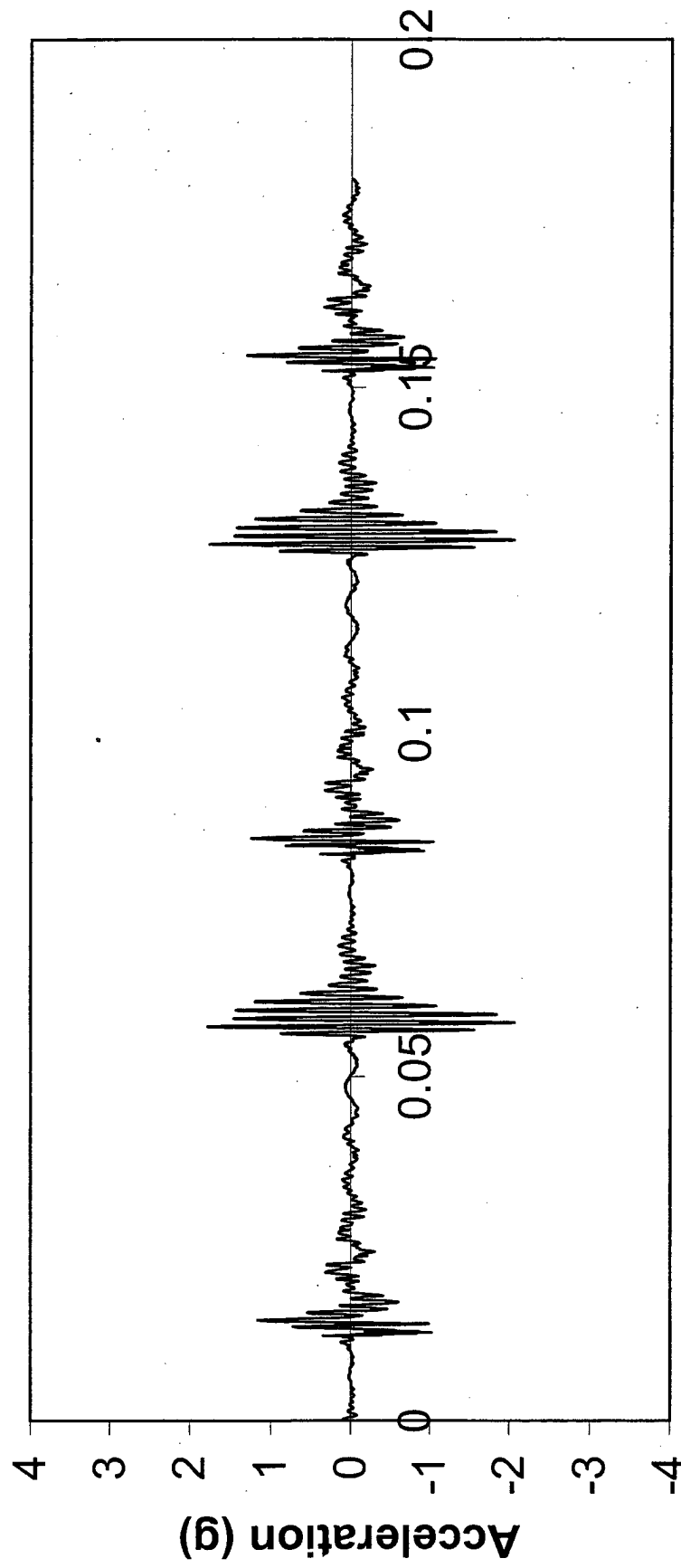
**Figure 8D**

**8008 nozzle 15 Hz 60% dc zero flow 0 kPa  
off periods**



**Figure 8E**

**8008 nozzle 15 Hz 60% dc clogged to 47% flow  
300 kPa**

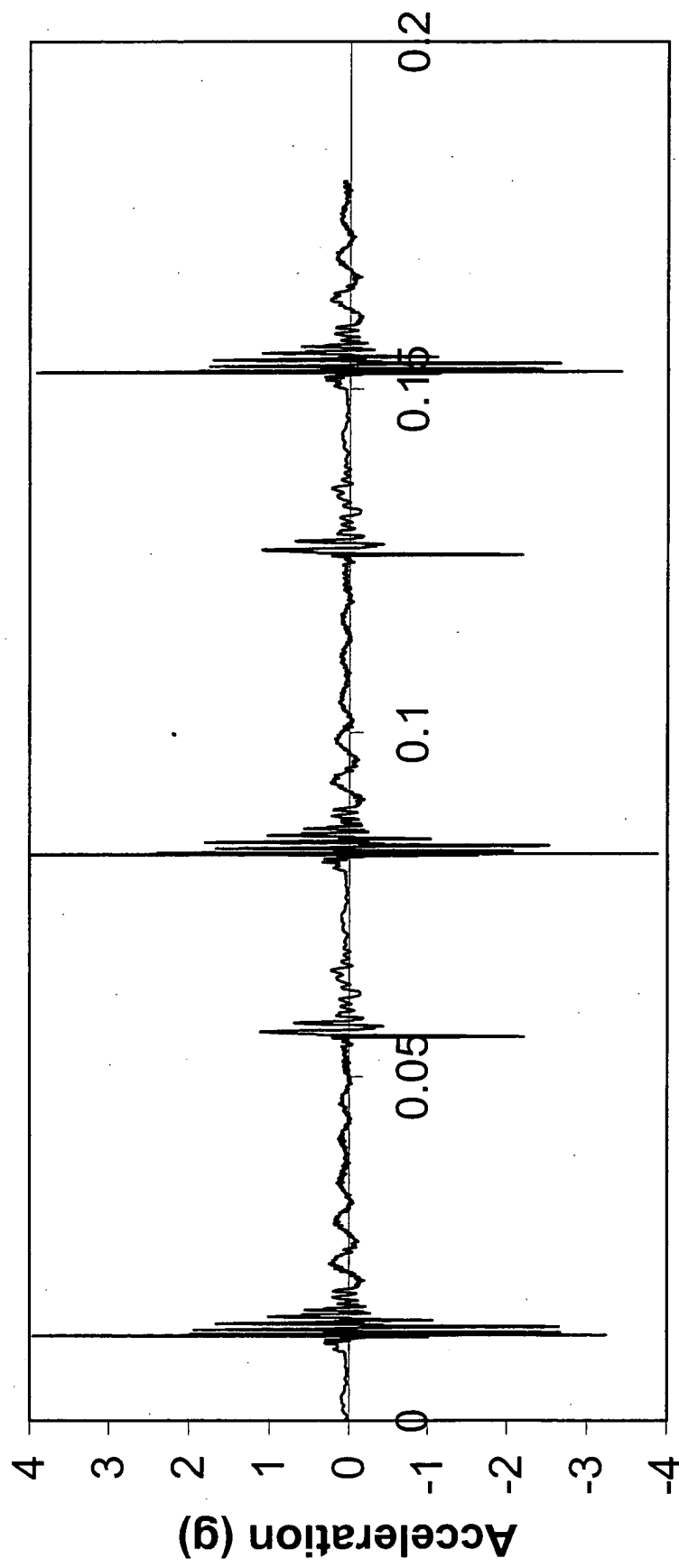


**Time (s)**

— X-axis

**Figure 8F**

**8008 nozzle 15 Hz 60% dc clogged to 47% flow  
300 kPa**

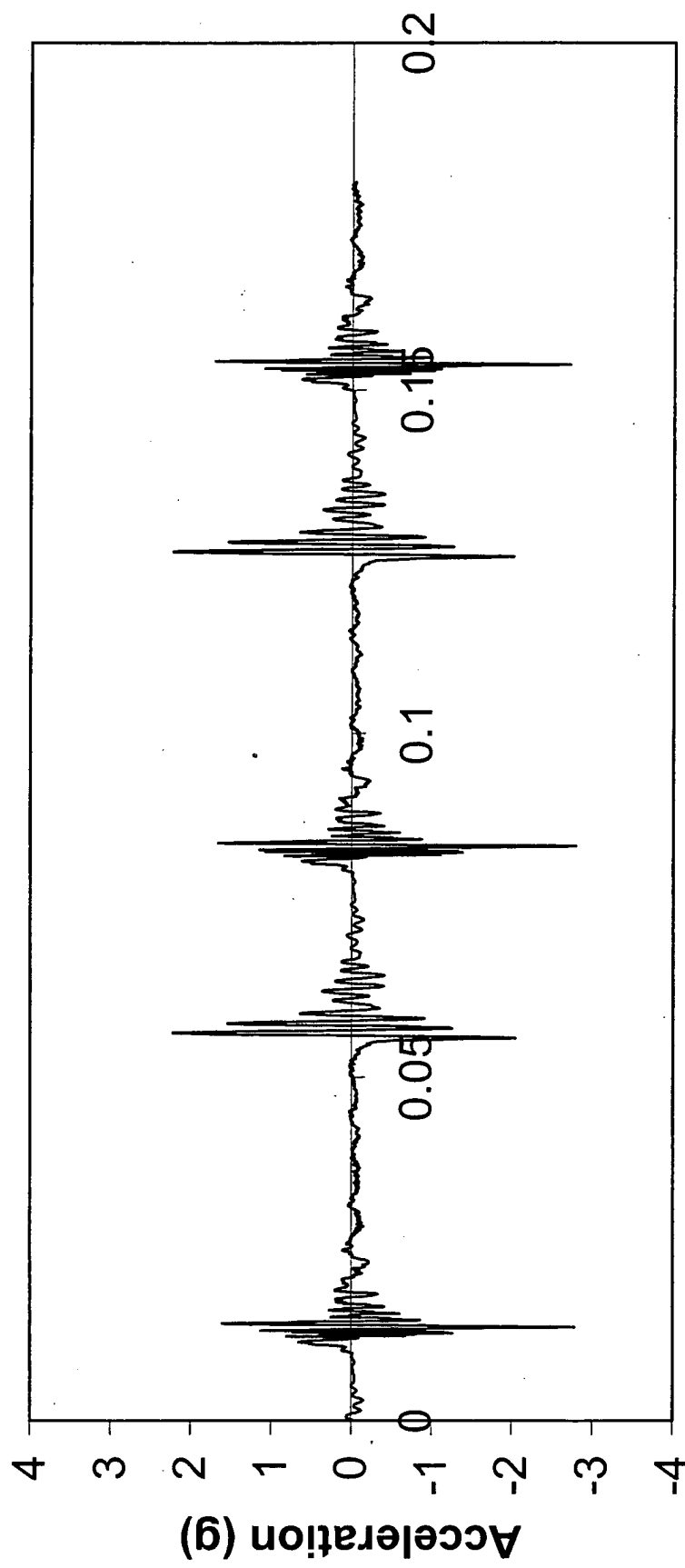


**Time (s)**

— Y-axis

**Figure 8G**

**8008 nozzle 15 Hz 60% dc clogged to 47% flow  
300 kPa**

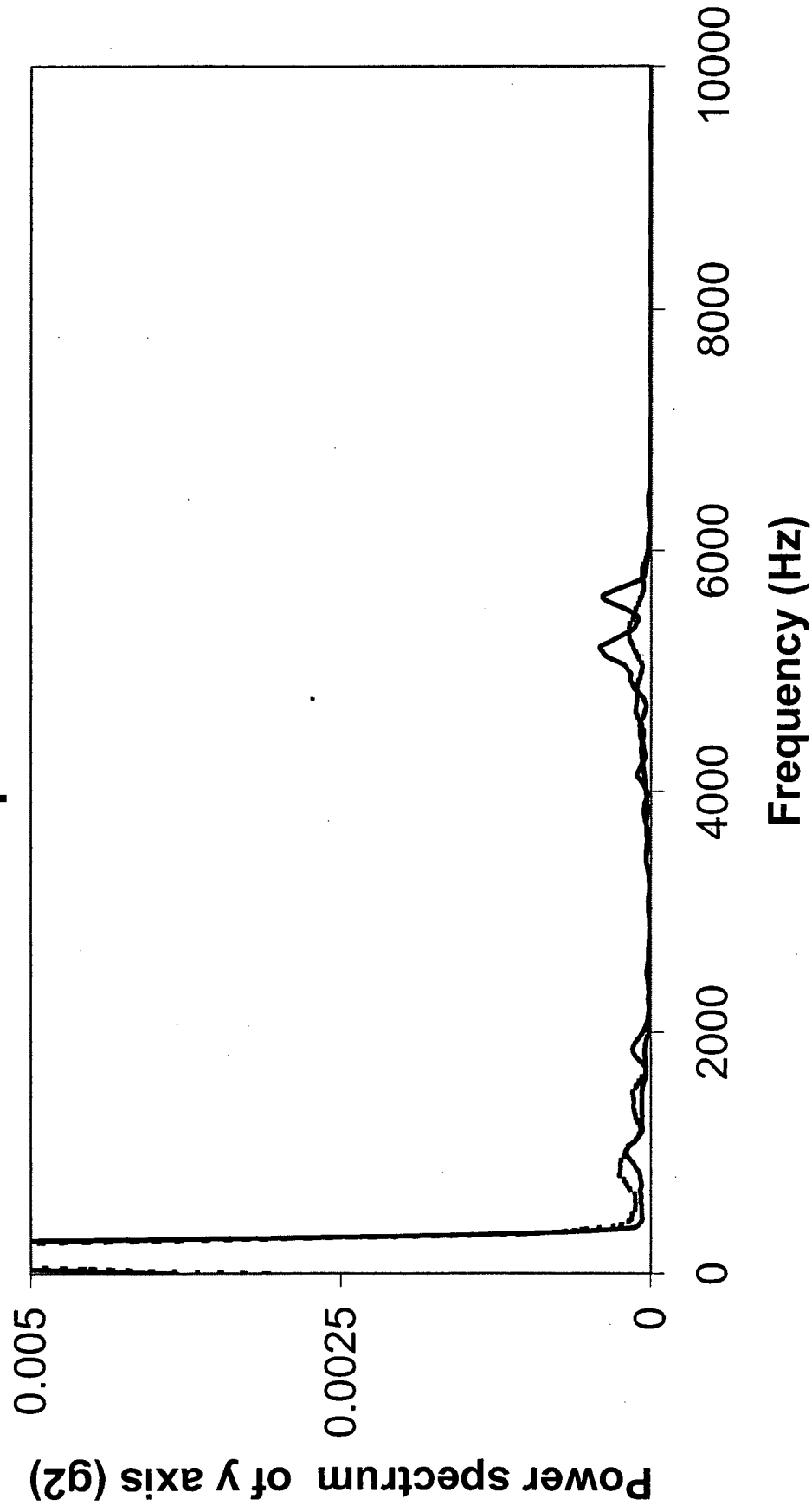


**Time (s)**

— Z-axis

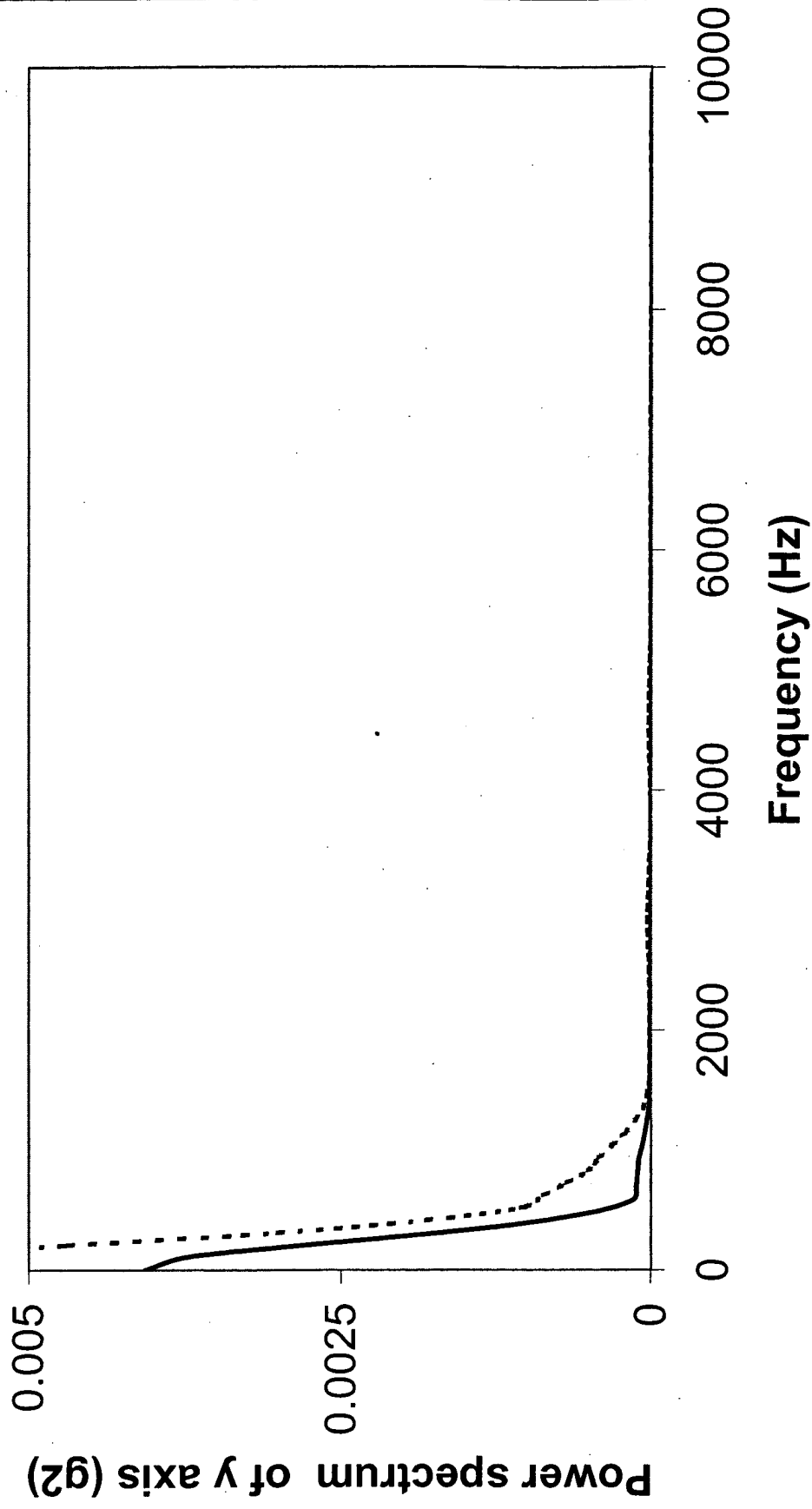
**Figure 8H**

**8008 nozzle 15 Hz 60% dc clogged to 47% flow  
on periods**

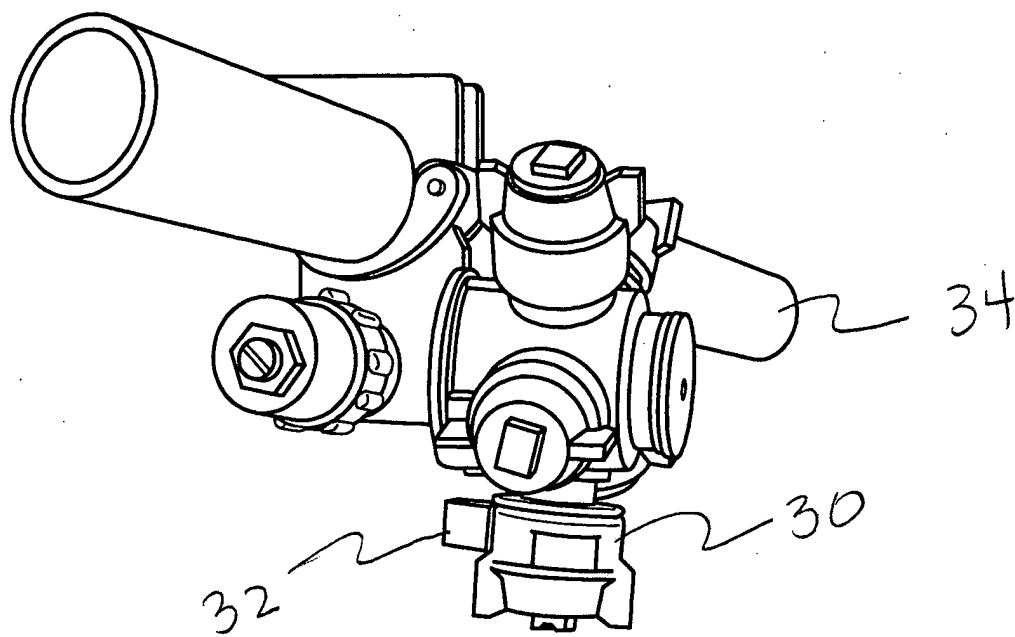


**Figure 8I**

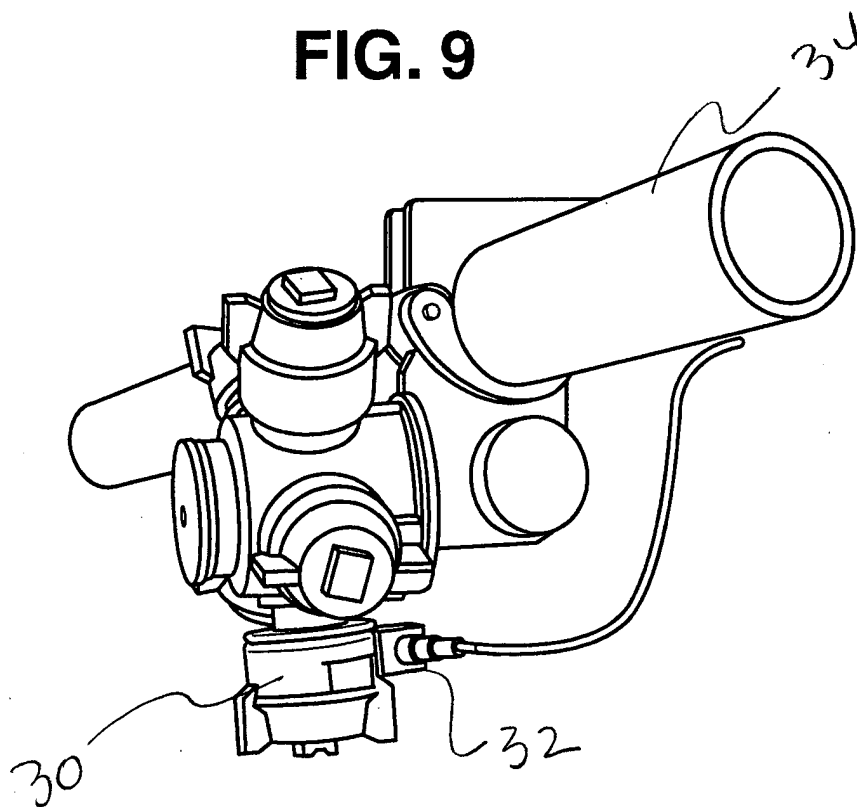
**8008 nozzle 15 Hz 60% dc clogged to 47% flow  
off periods**



**Figure 8J**



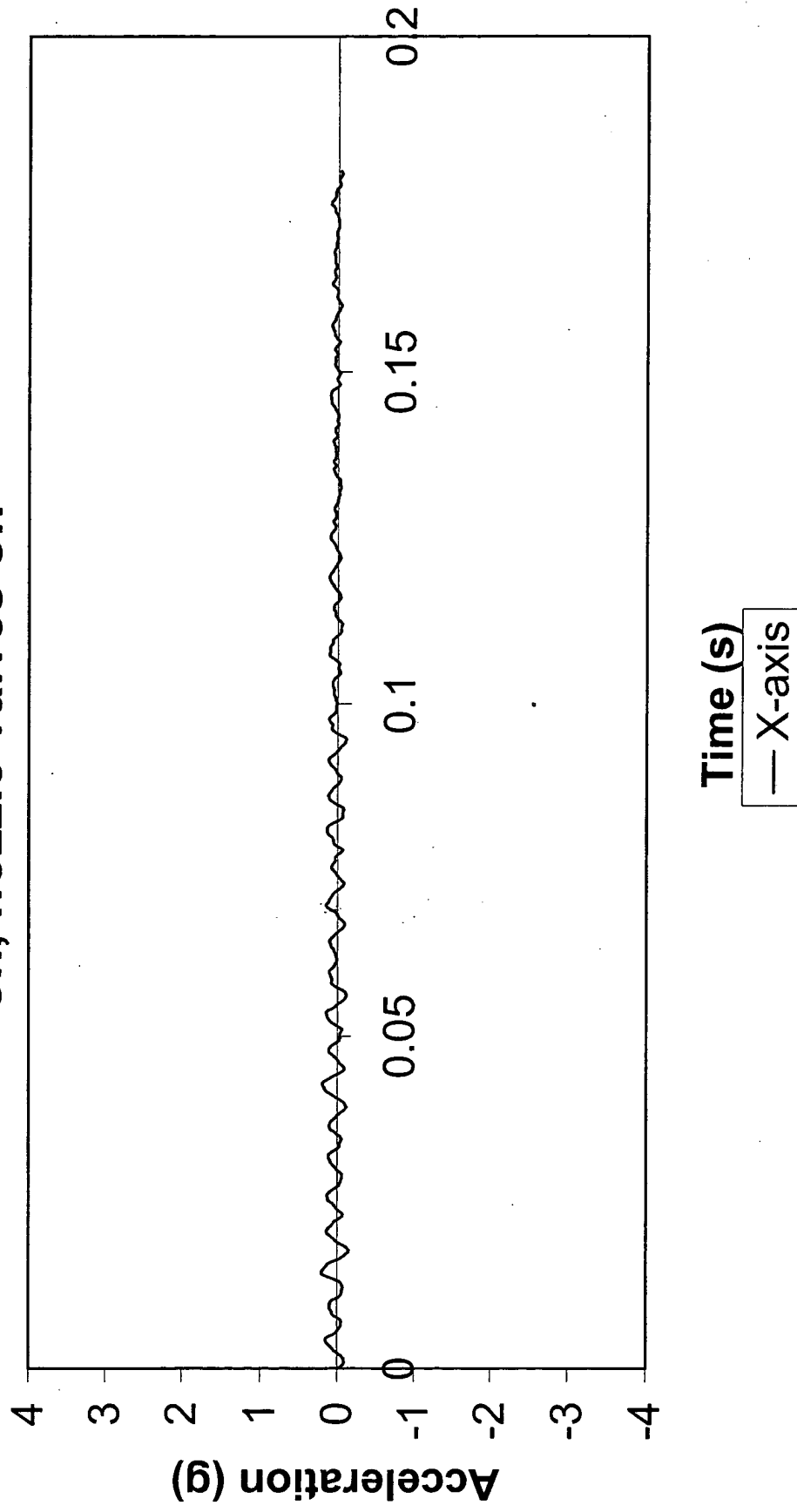
**FIG. 9**



**FIG. 10**



# Self propeller sprayer, engine full throttle, pump on, nozzle valves off

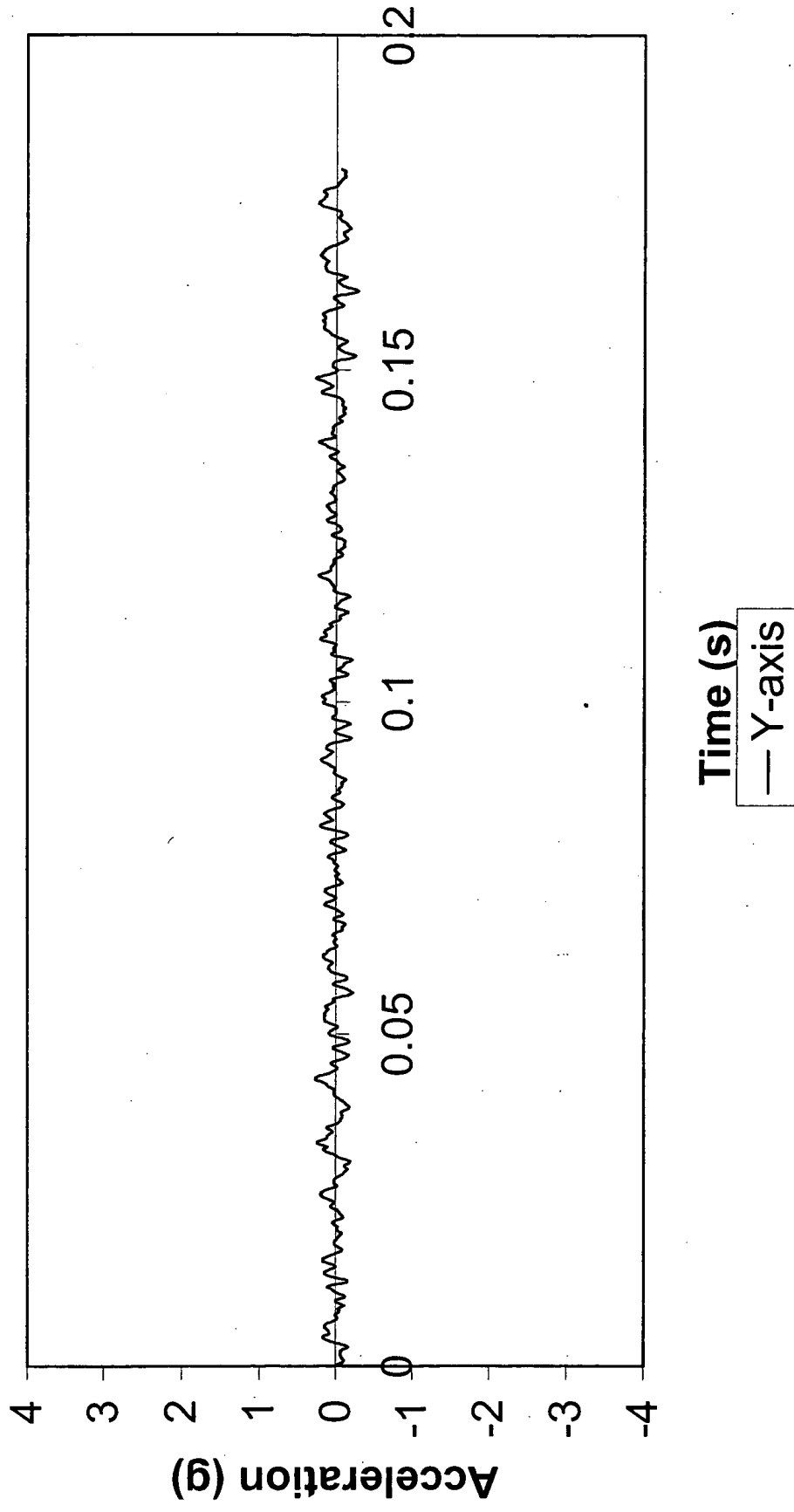


Time (s)

— X-axis

Figure 11A

# Self propeller sprayer, engine full throttle, pump on, nozzle valves off

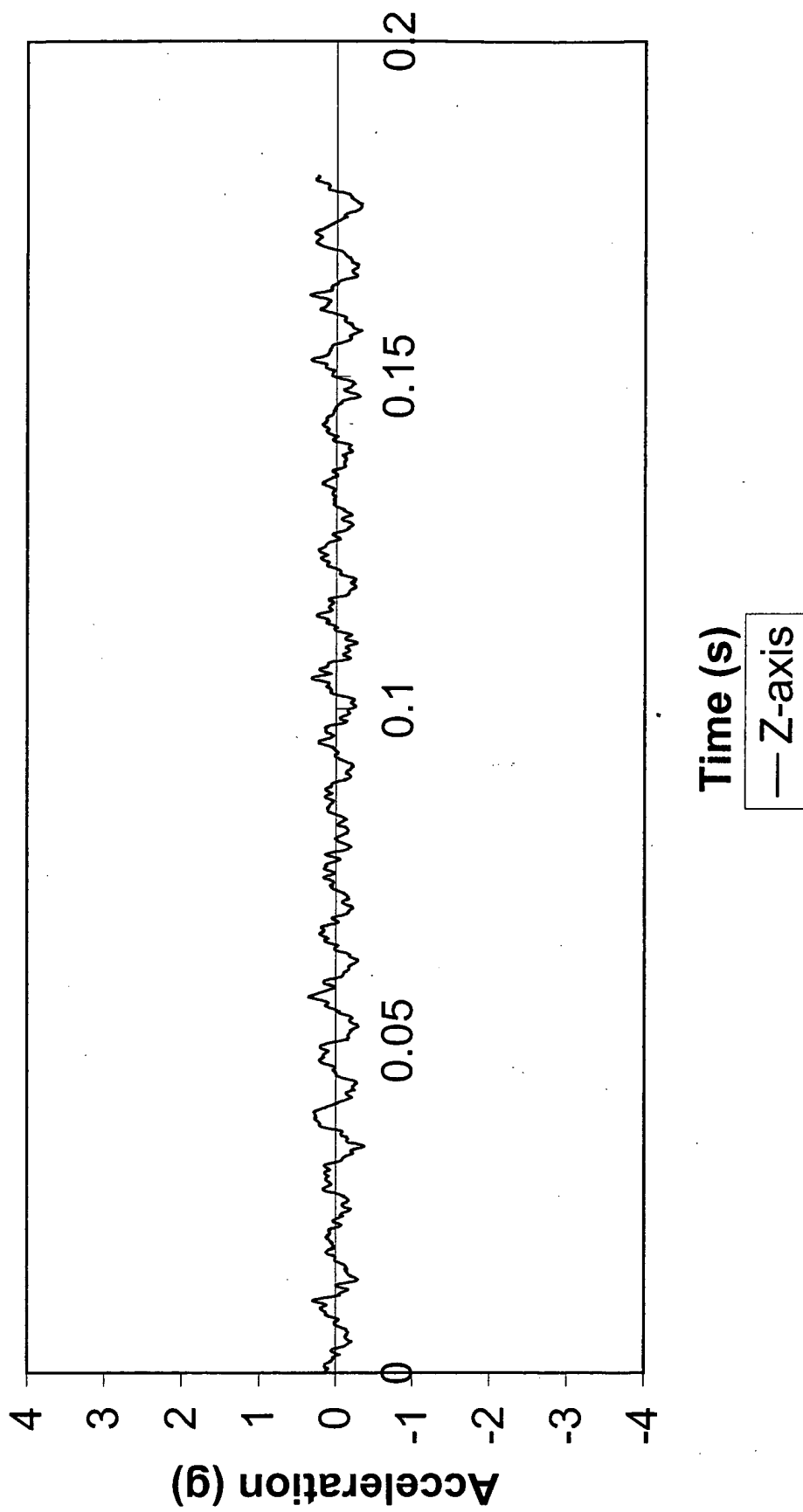


Time (s)

— Y-axis

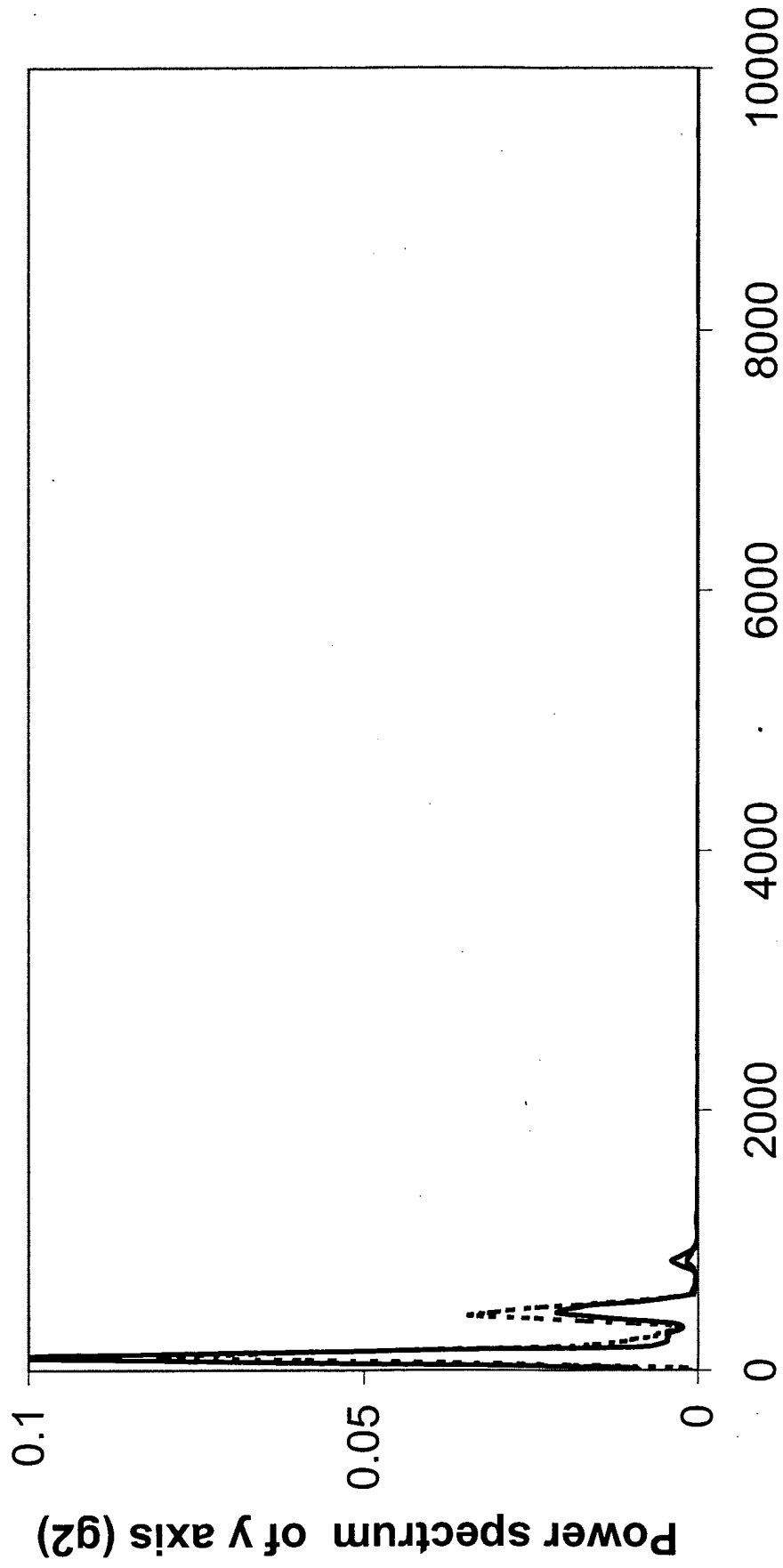
Figure 11B

**Self propeller sprayer, engine full throttle, pump  
on, nozzle valves off**



**Figure 11C**

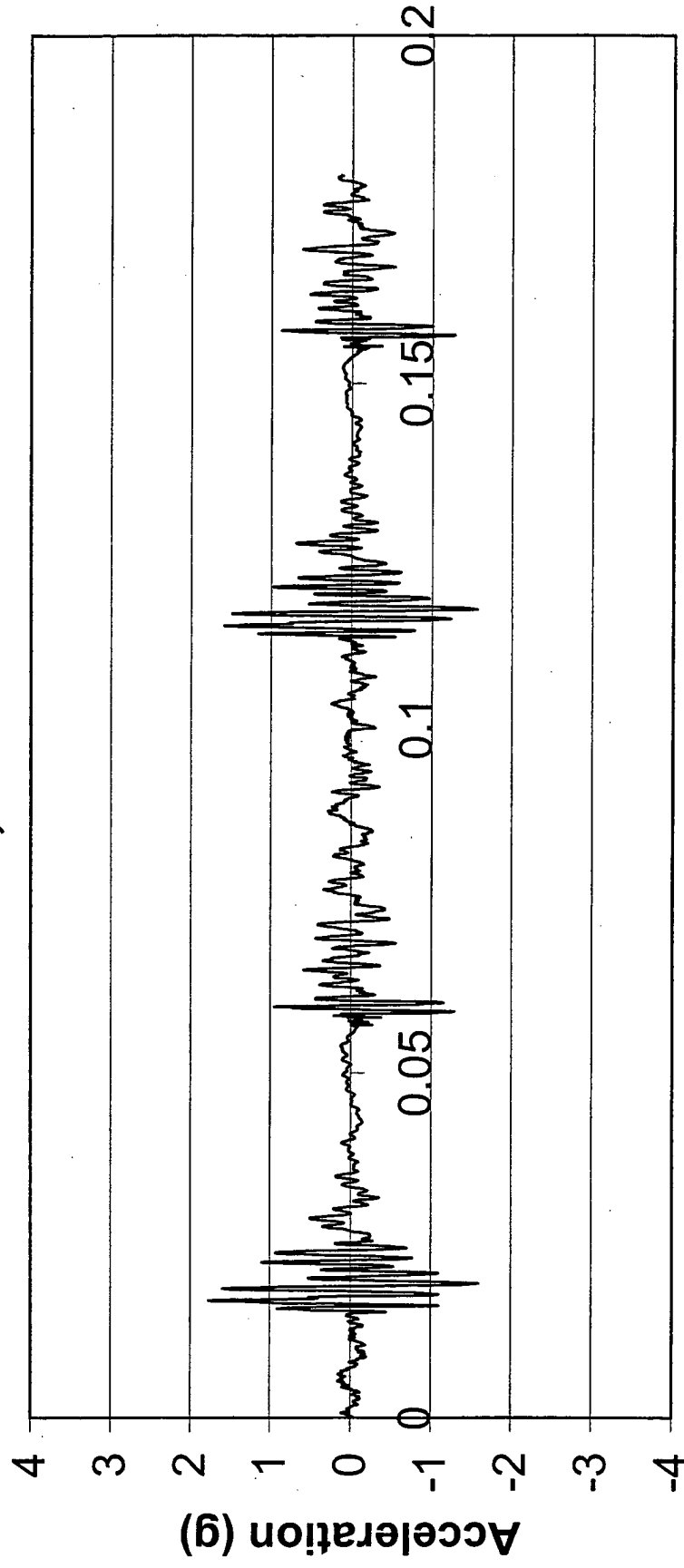
**Self propeller sprayer, engine full throttle, pump on,  
nozzle valves off**



**Frequency (Hz)**

**Figure 11D**

**Self propelled sprayer, full throttle, 8008 nozzle,  
10 Hz, 300 kPa**

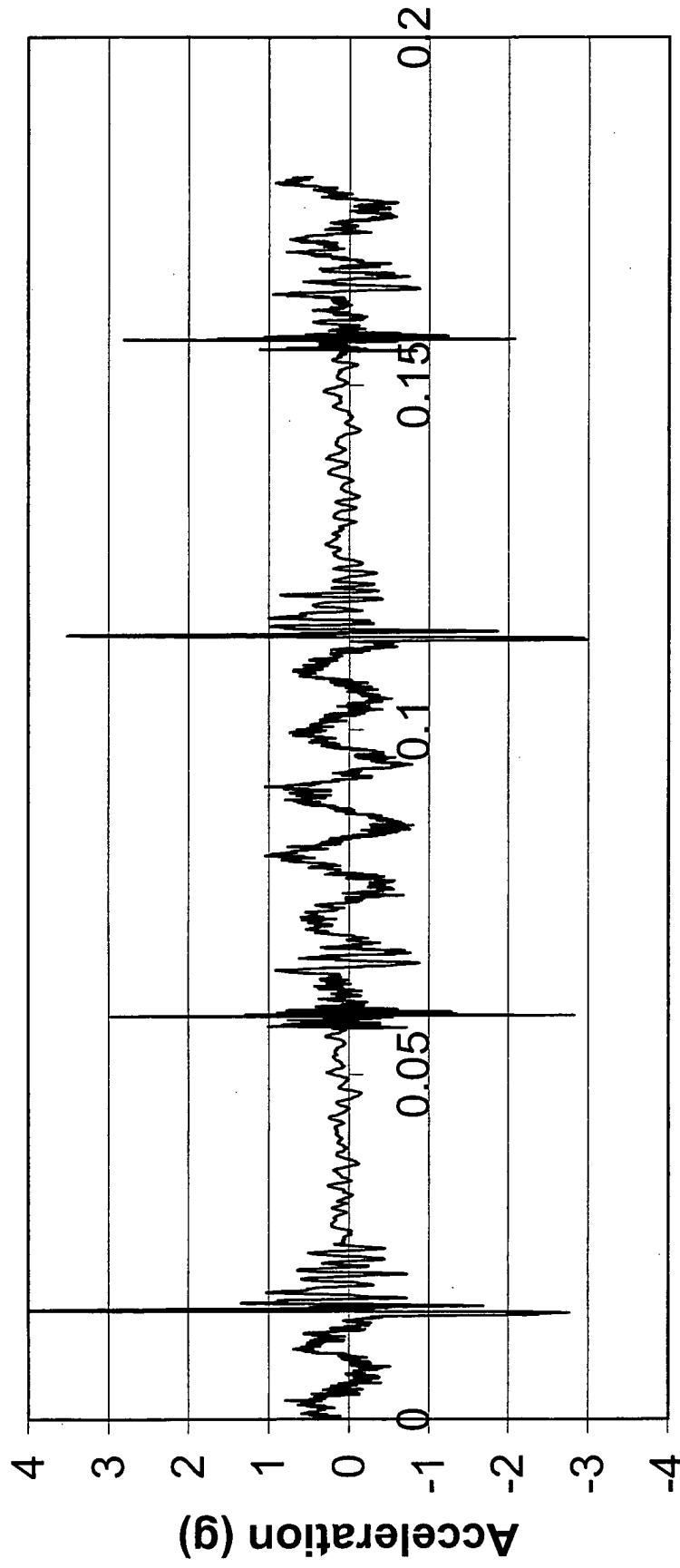


**Time (s)**

— X-axis

**Figure 12A**

**Self propelled sprayer, full throttle, 8008 nozzle,  
10 Hz, 300 kPa**

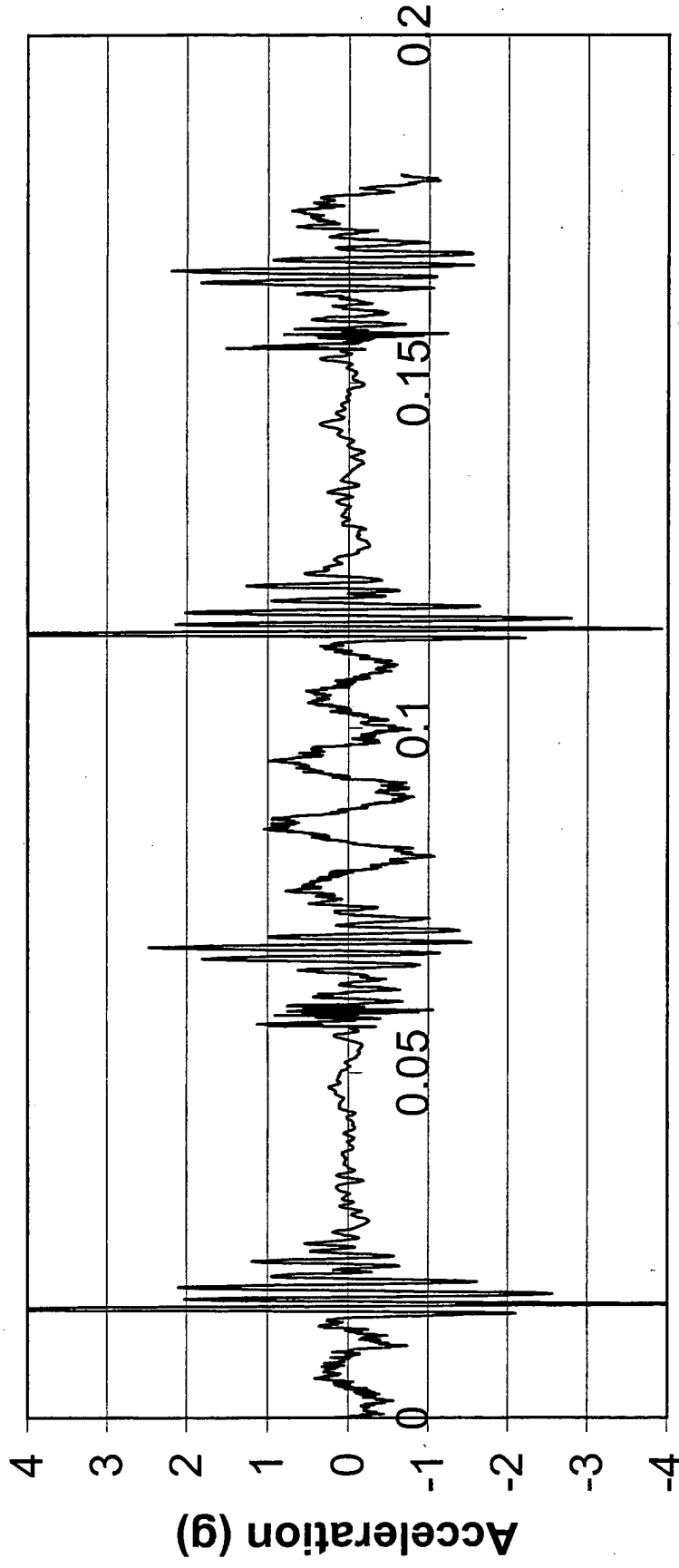


Time (s)

— Y-axis

**Figure 12B**

**Self propelled sprayer, full throttle, 8008 nozzle,  
10 Hz, 300 kPa**

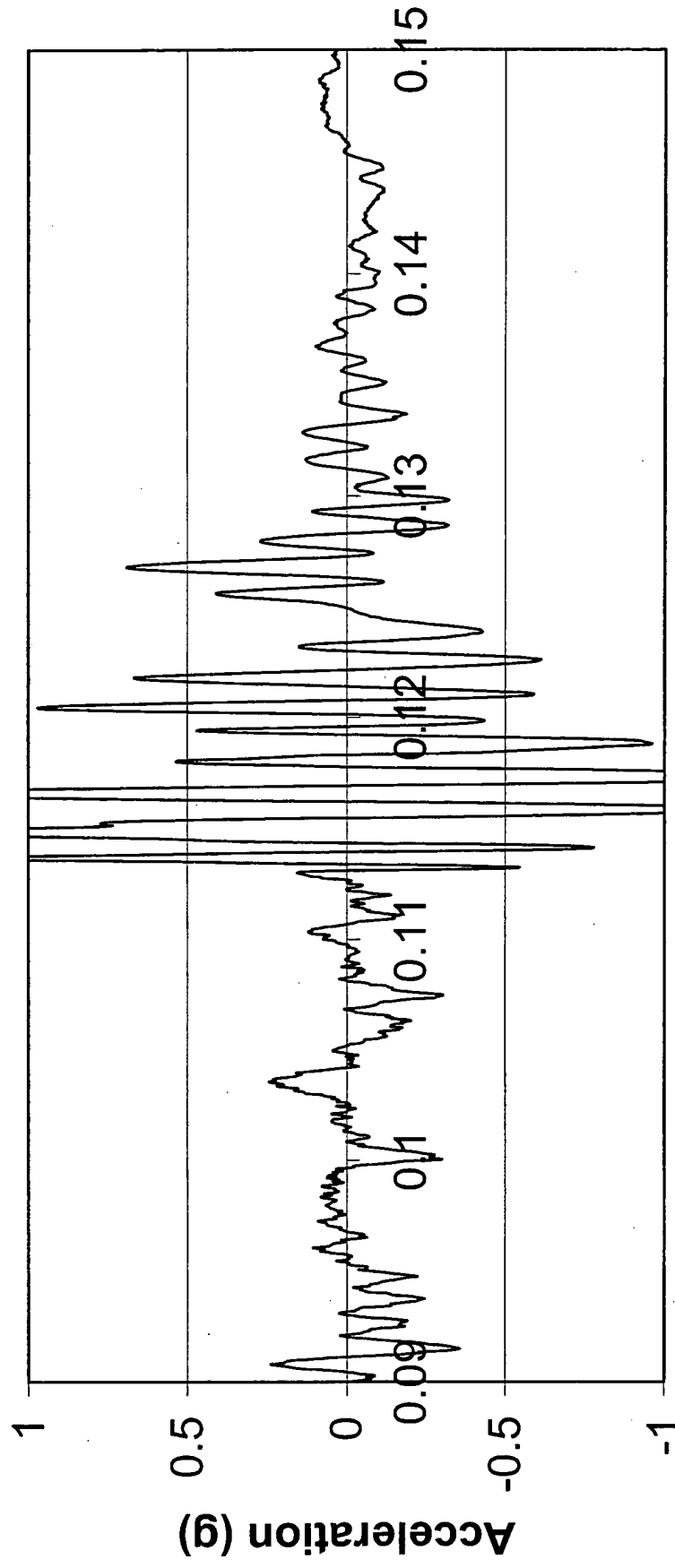


**Time (s)**

— Z-axis

**Figure 12C**

**Self propelled sprayer, full throttle, 8008 nozzle,  
10 Hz, 300 kPa**



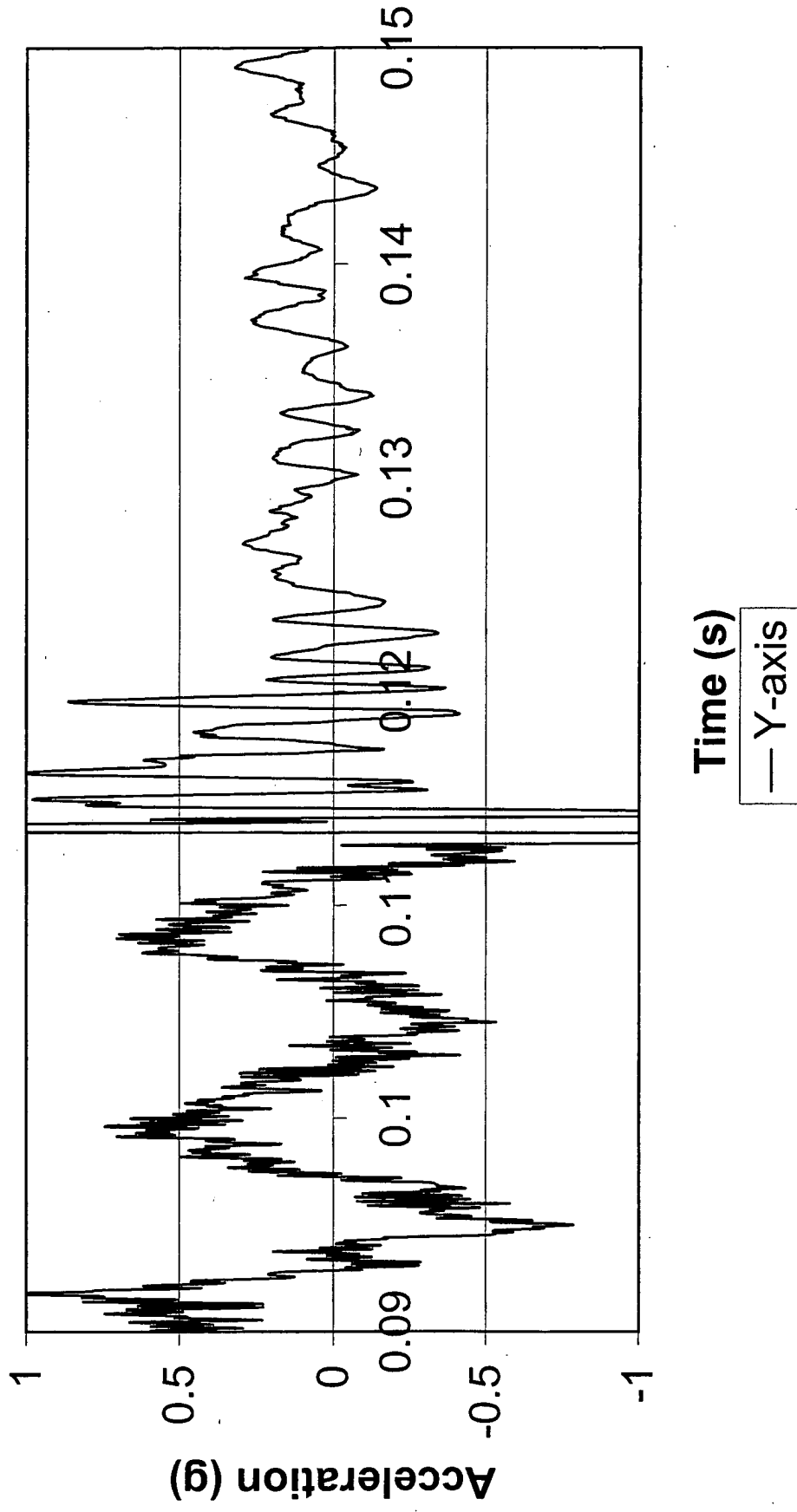
Time (s)

— X-axis

**Figure 12D**

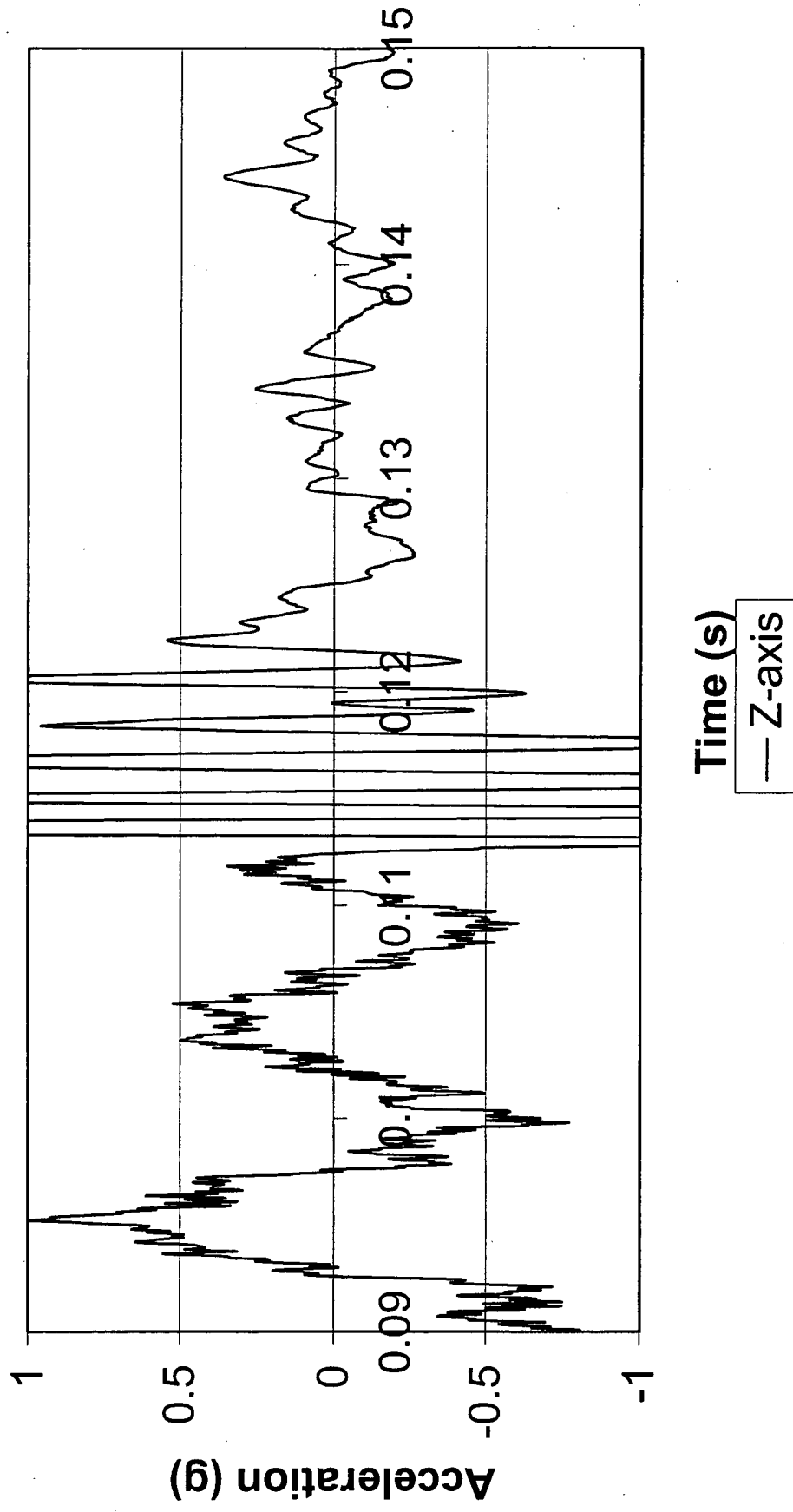


**Self propelled sprayer, full throttle, 8008 nozzle,  
10 Hz, 300 kPa**



**Figure 12E**

**Self propelled sprayer, full throttle, 8008 nozzle,  
10 Hz, 300 kPa**



**Figure 12F**

Self propelled sprayer, full throttle, 8008 nozzle, 10 Hz, 300 kPa

on periods

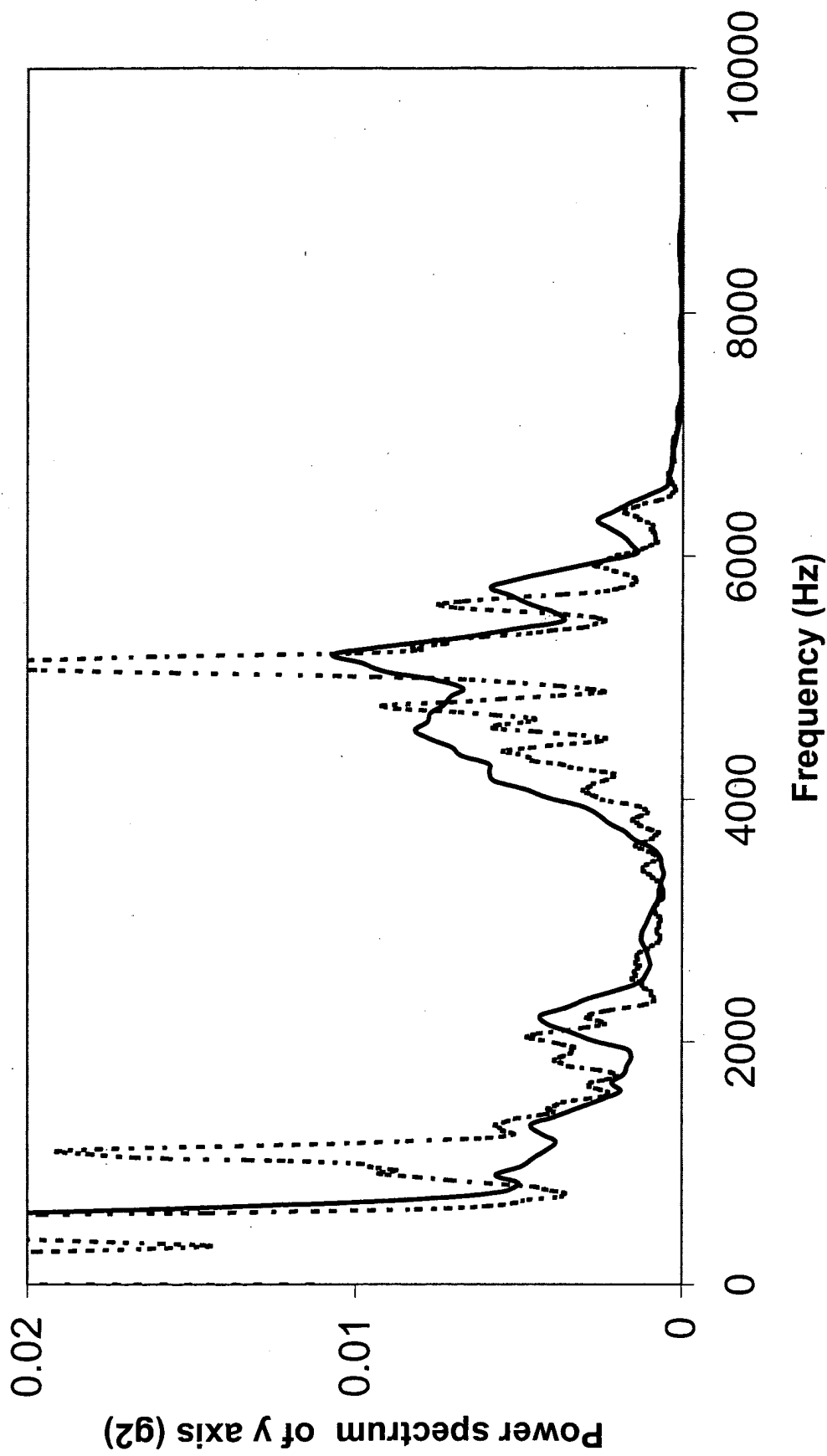


Figure 12G

Self propelled sprayer, full throttle, 8008 nozzle, 10 Hz, 300 kPa  
off periods

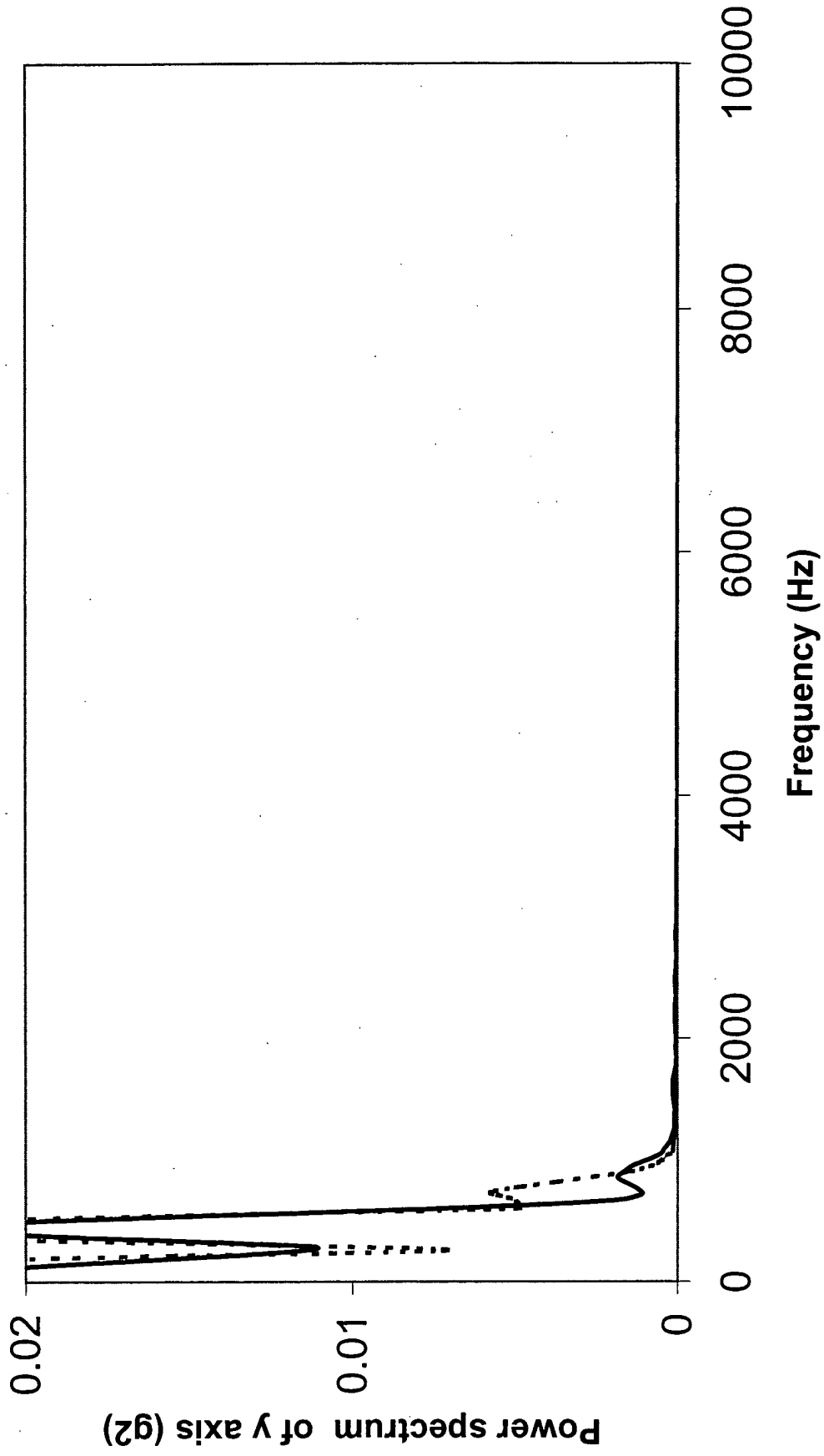
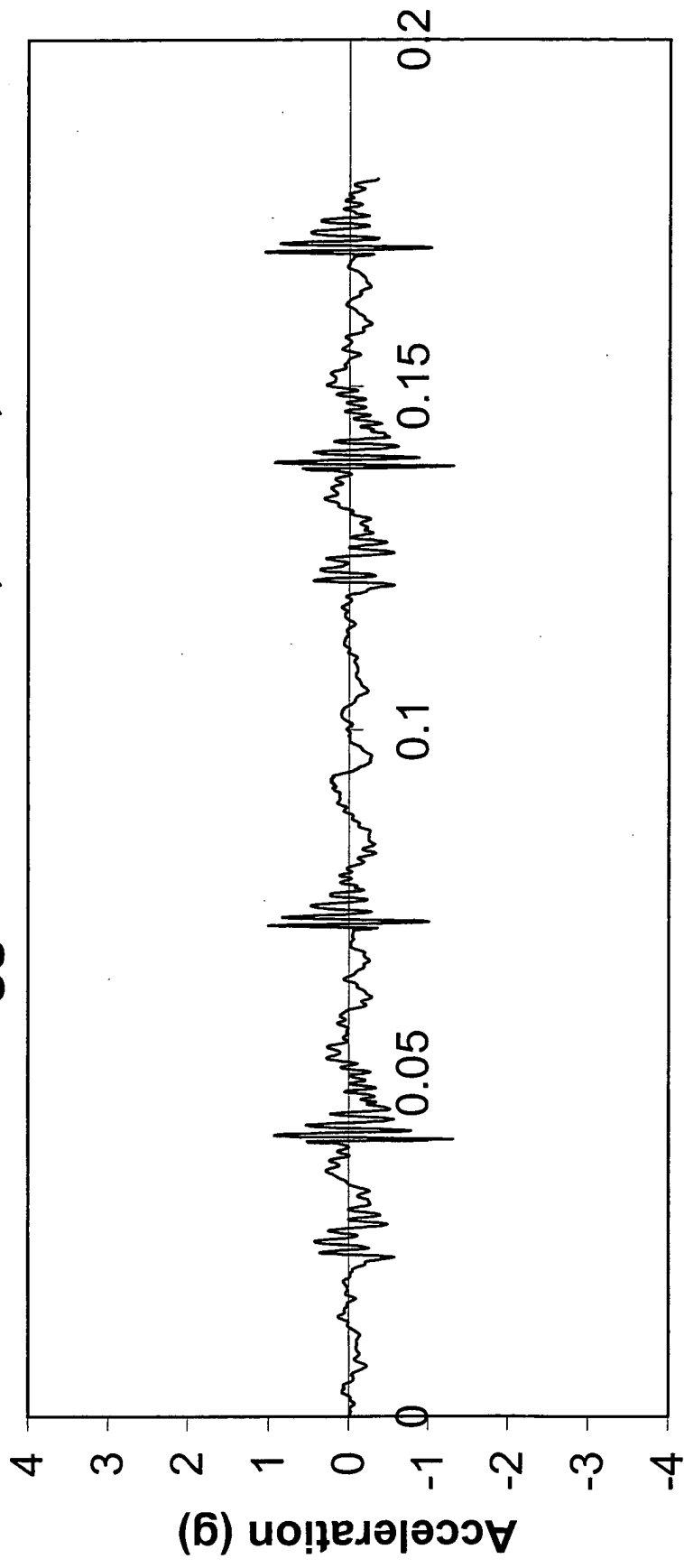


Figure 12H

**Self propelled sprayer, full throttle,  
8008 nozzle clogged to 0% flow, 10 Hz, 300 kPa**

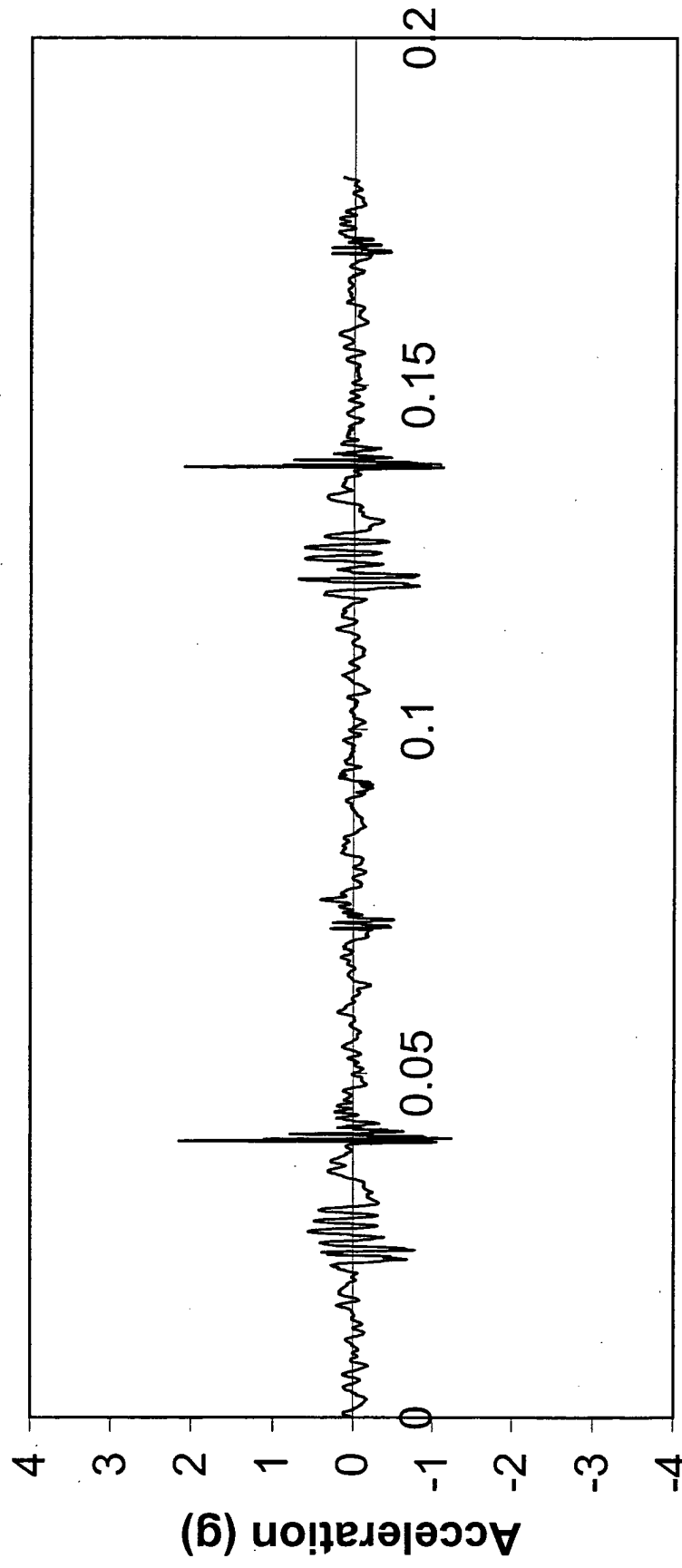


**Time (s)**

— X-axis

**Figure 13A**

**Self propelled sprayer, full throttle,  
8008 nozzle clogged to 0% flow, 10 Hz, 300 kPa**

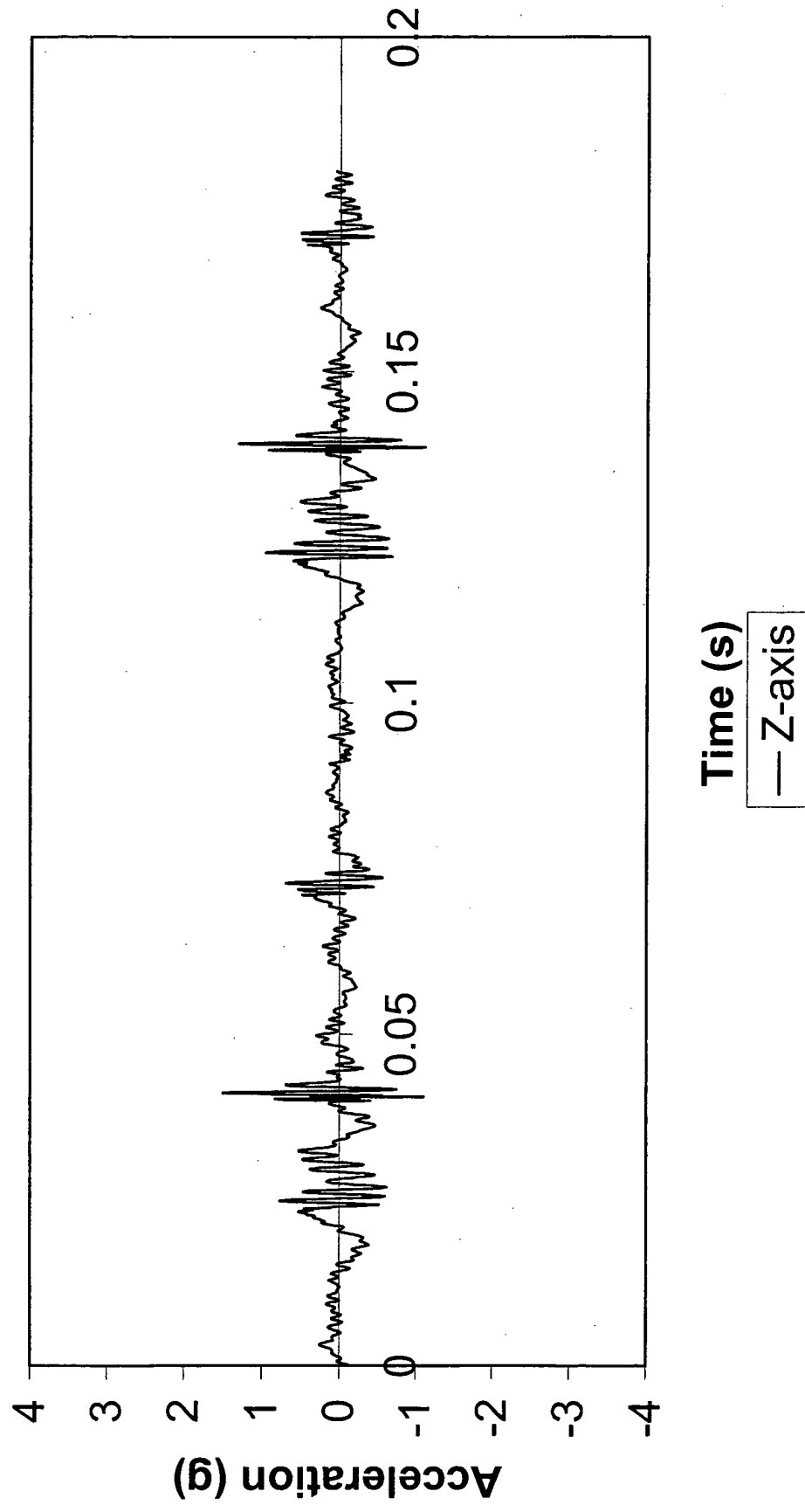


Time (s)

— Y-axis

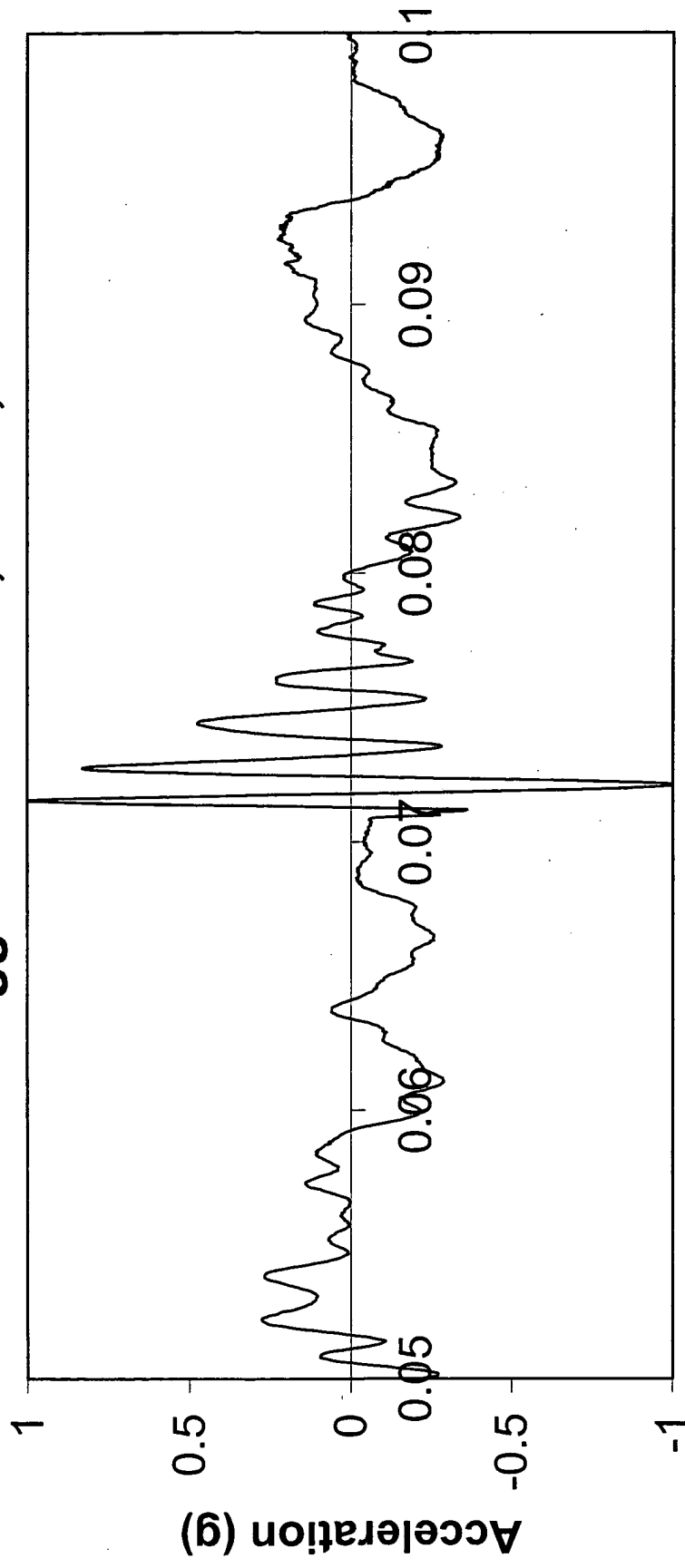
**Figure 13B**

**Self propelled sprayer, full throttle,  
8008 nozzle clogged to 0% flow, 10 Hz, 300 kPa**



**Figure 13C**

**Self propelled sprayer, full throttle,  
8008 nozzle clogged to 0% flow, 10 Hz, 300 kPa**



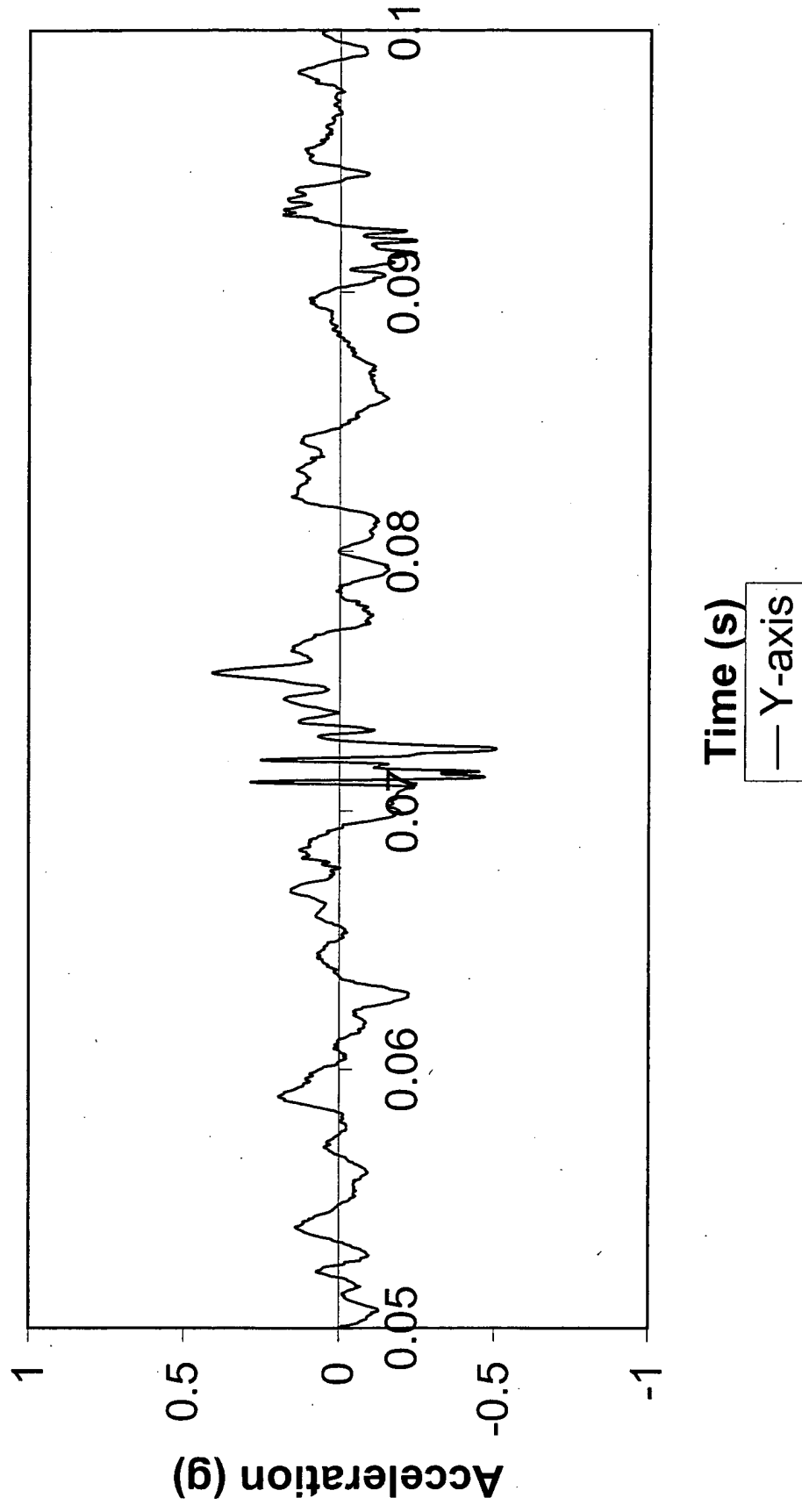
**Time (s)**

— X-axis

**Figure 13D**

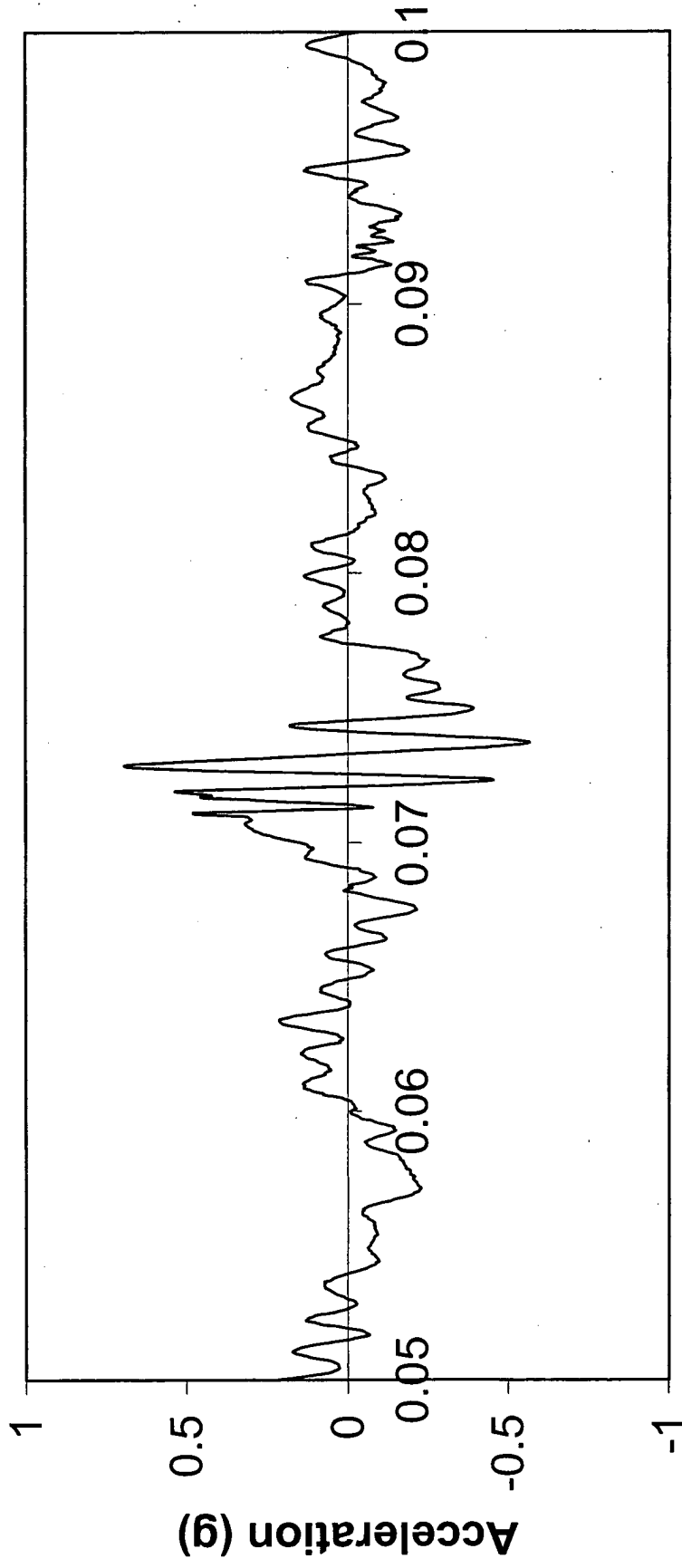


**Self propelled sprayer, full throttle,  
8008 nozzle clogged to 0% flow, 10 Hz, 300 kPa**



**Figure 13E**

**Self propelled sprayer, full throttle,  
8008 nozzle clogged to 0% flow, 10 Hz, 300 kPa**

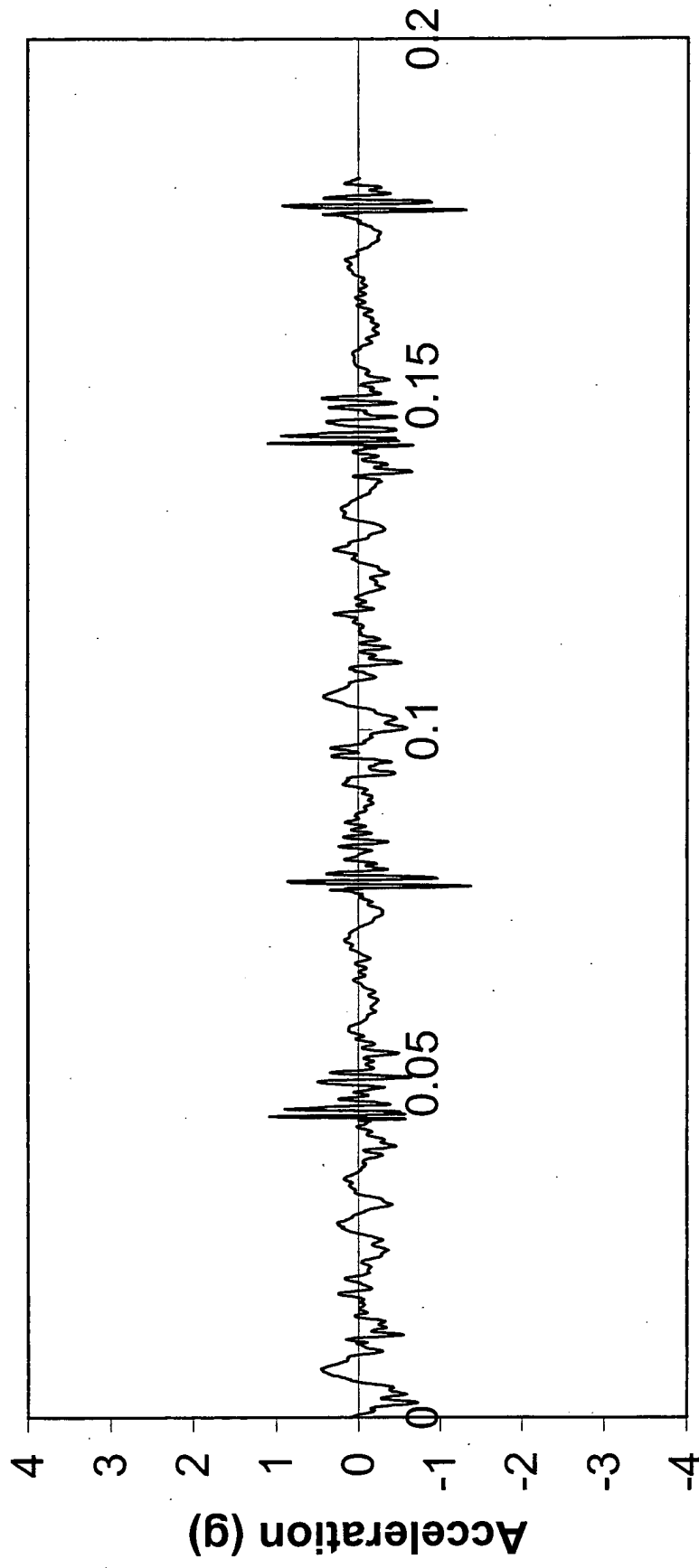


Time (s)

— Z-axis

**Figure 13F**

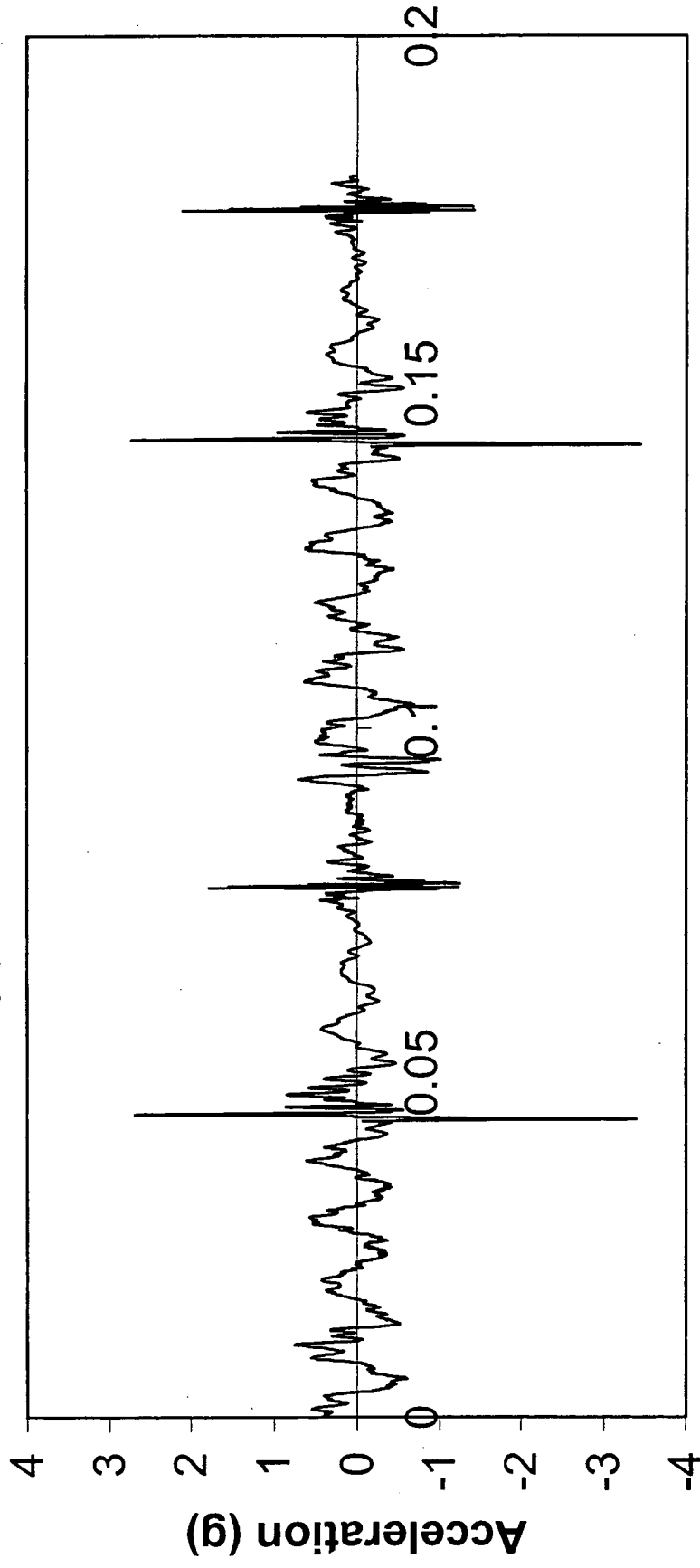
**Self propelled sprayer, full throttle,  
8008 nozzle clogged to 47% flow, 10 Hz, 300 kPa**



**Time (s)**  
— X-axis

**Figure 14A**

**Self propelled sprayer, full throttle,  
8008 nozzle clogged to 47% flow, 10 Hz, 300 kPa**

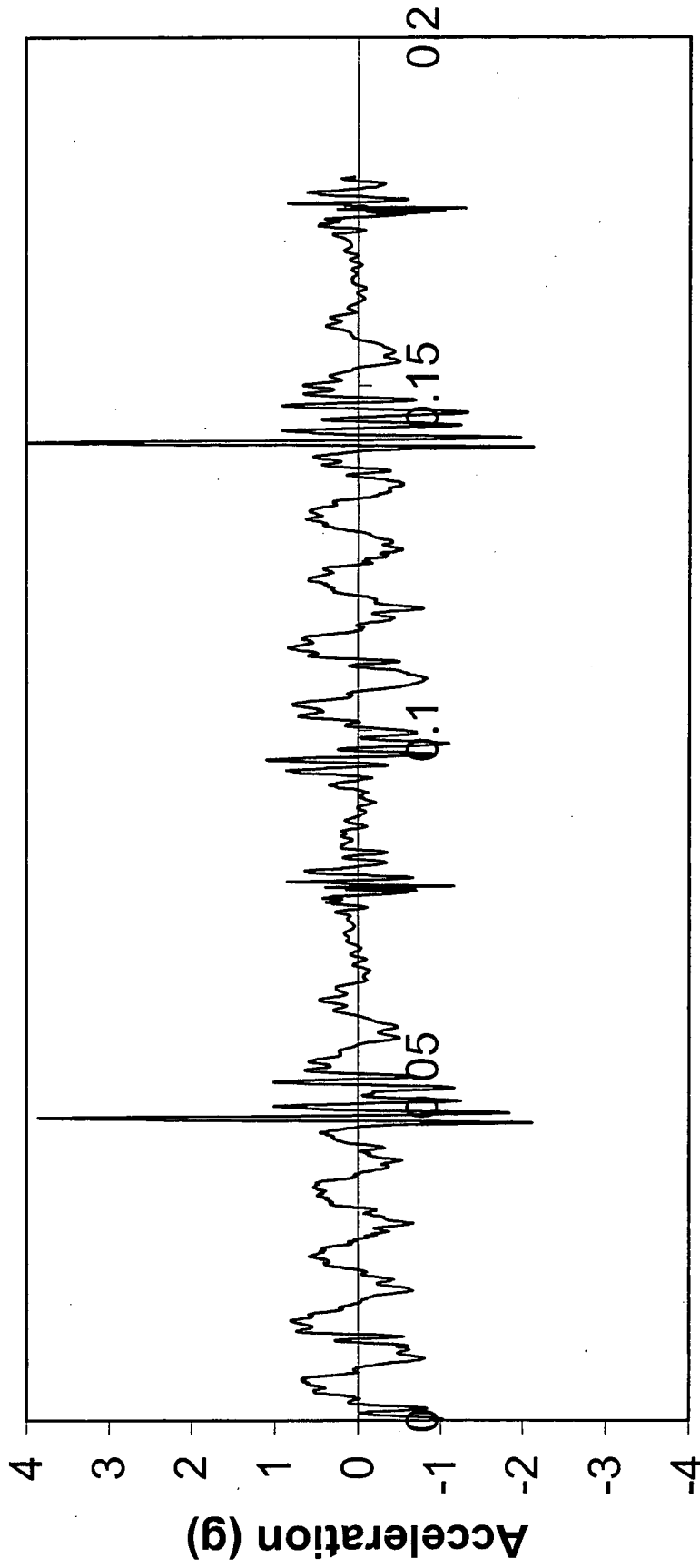


**Time (s)**

— Y-axis

**Figure 14B**

**Self propelled sprayer, full throttle,  
8008 nozzle clogged to 47% flow, 10 Hz, 300 kPa**

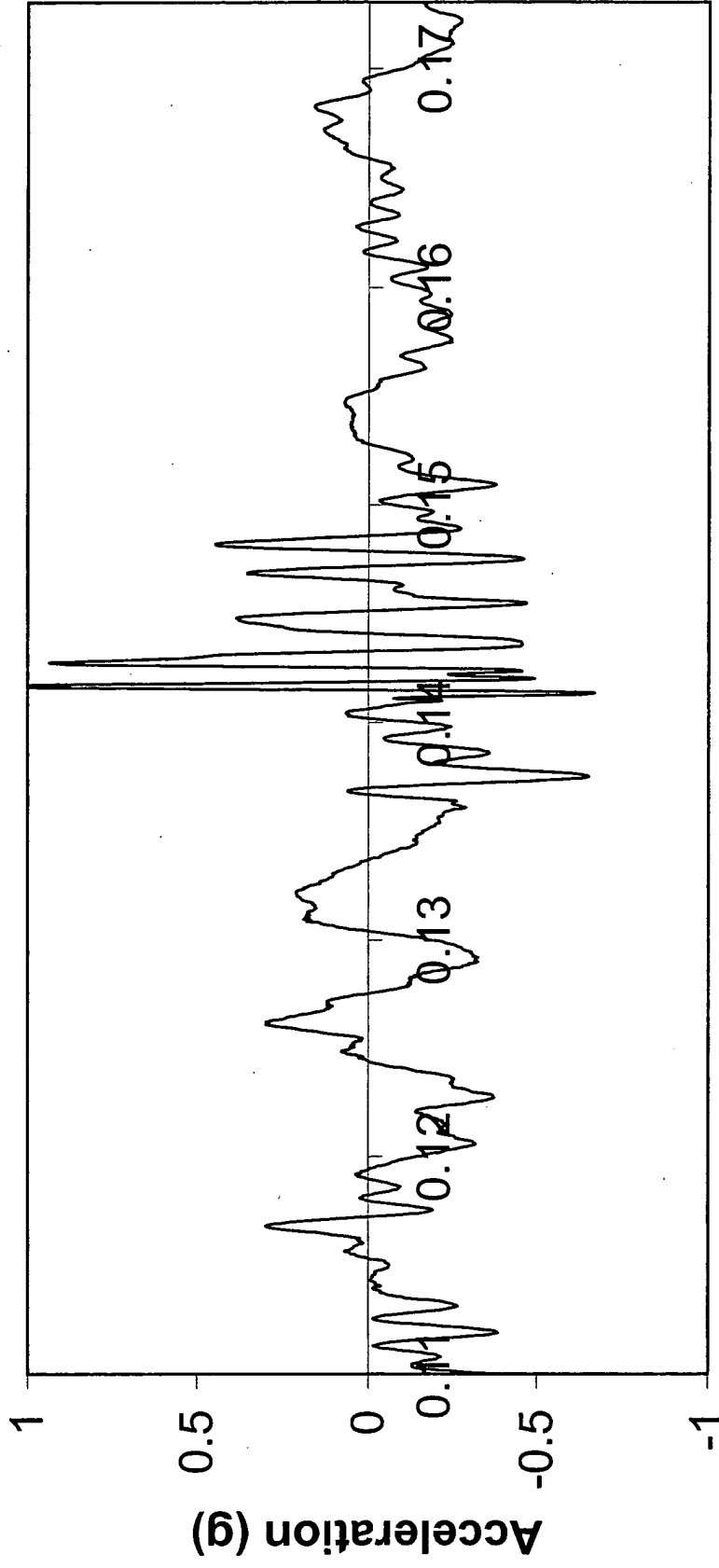


**Time (s)**

— Z-axis

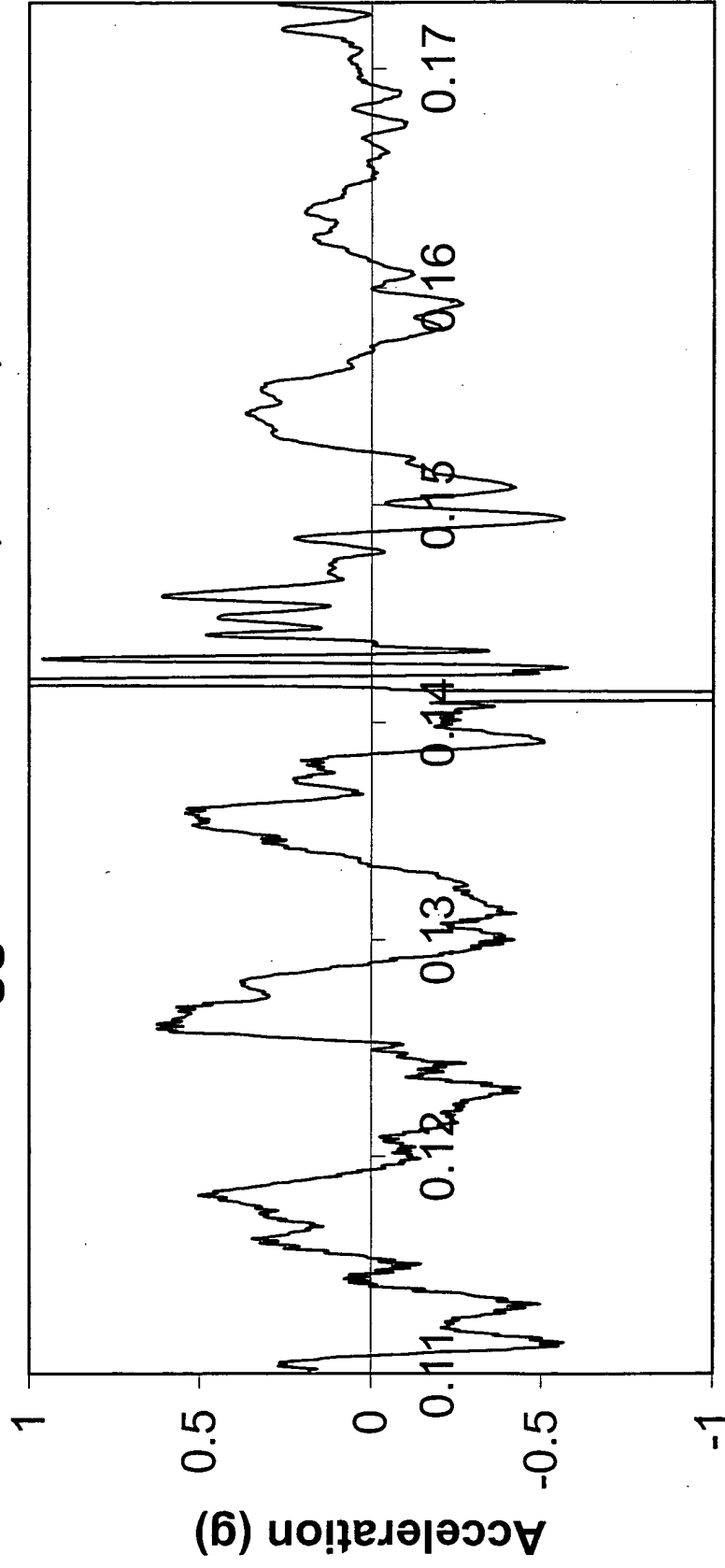
**Figure 14C**

**Self propelled sprayer, full throttle,  
8008 nozzle clogged to 47% flow, 10 Hz, 300 kPa**



**Figure 14D**

**Self propelled sprayer, full throttle,  
8008 nozzle clogged to 47% flow, 10 Hz, 300 kPa**

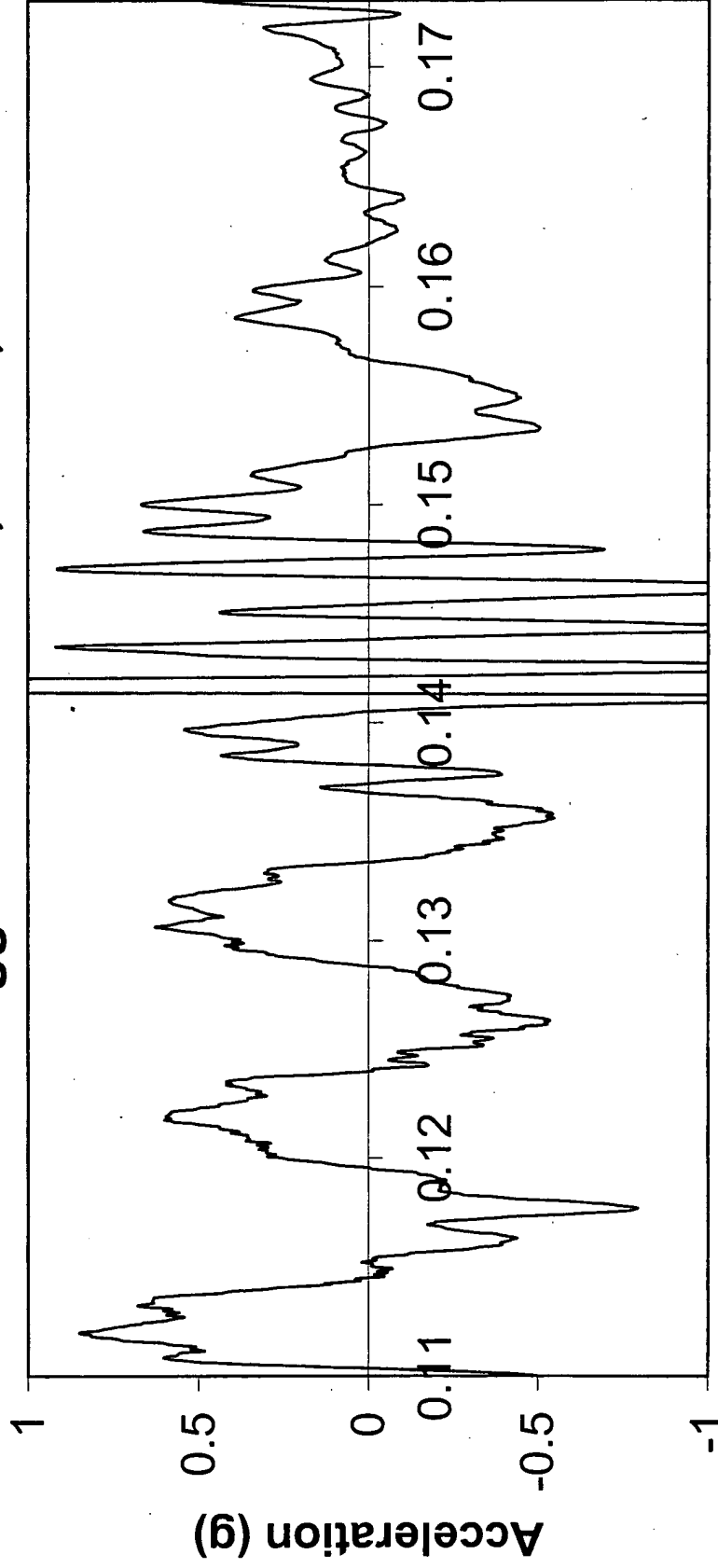


Time (s)

— Y-axis

**Figure 14E**

**Self propelled sprayer, full throttle,  
8008 nozzle clogged to 47% flow, 10 Hz, 300 kPa**

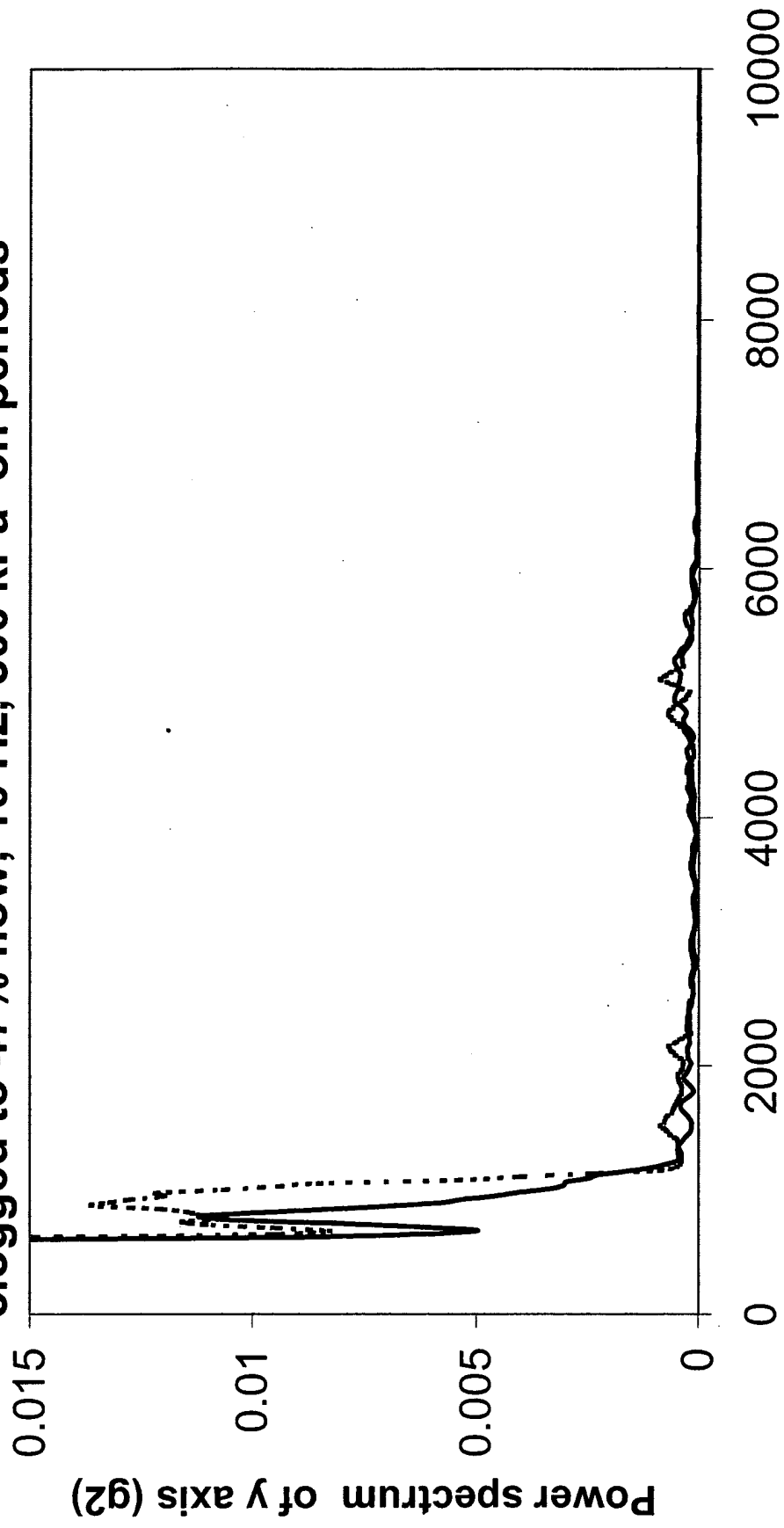


**Time (s)**  
— Z-axis

**Figure 14F**



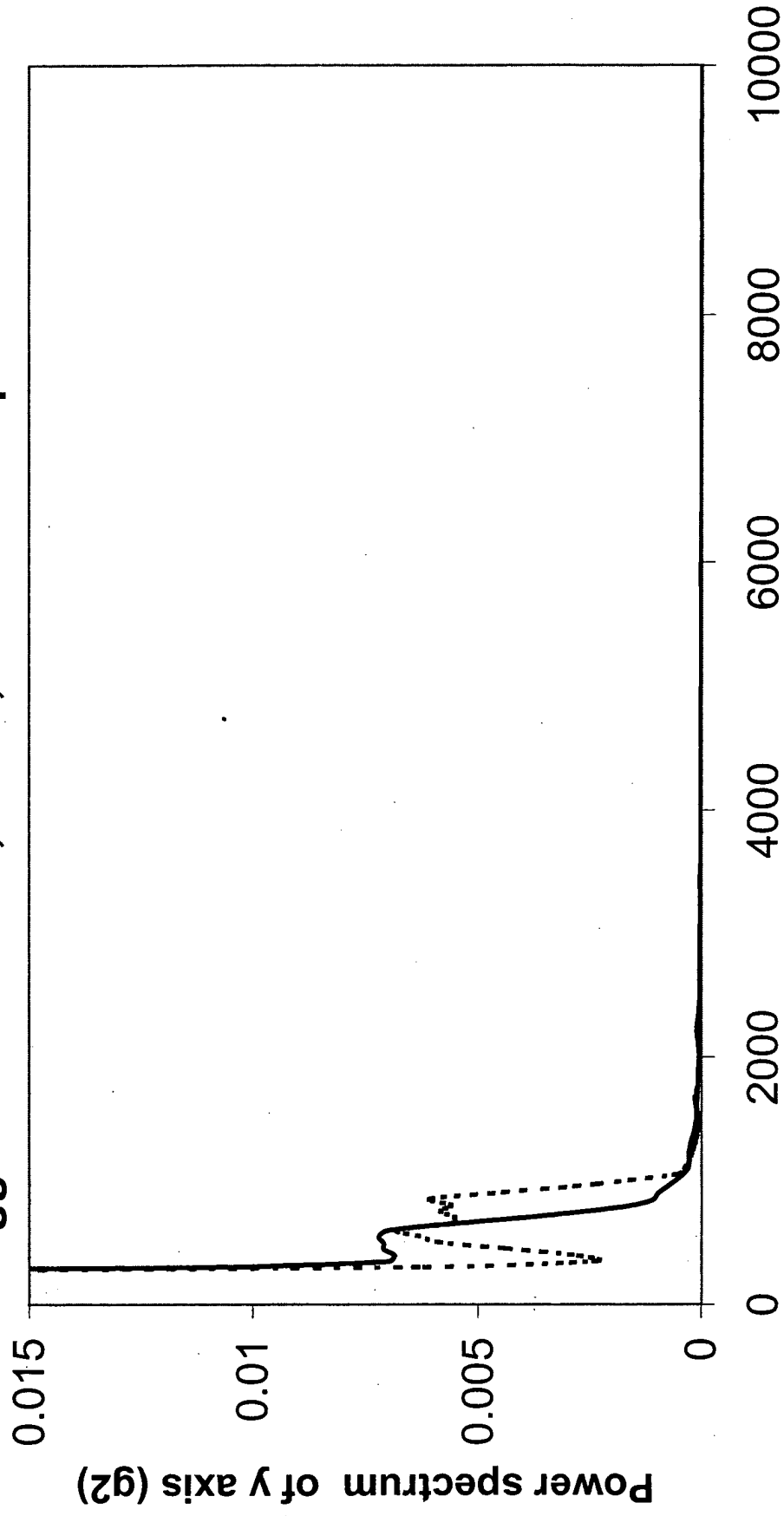
**Self propelled sprayer, full throttle, 8008 nozzle  
clogged to 47% flow, 10 Hz, 300 kPa on periods**



**Frequency (Hz)**

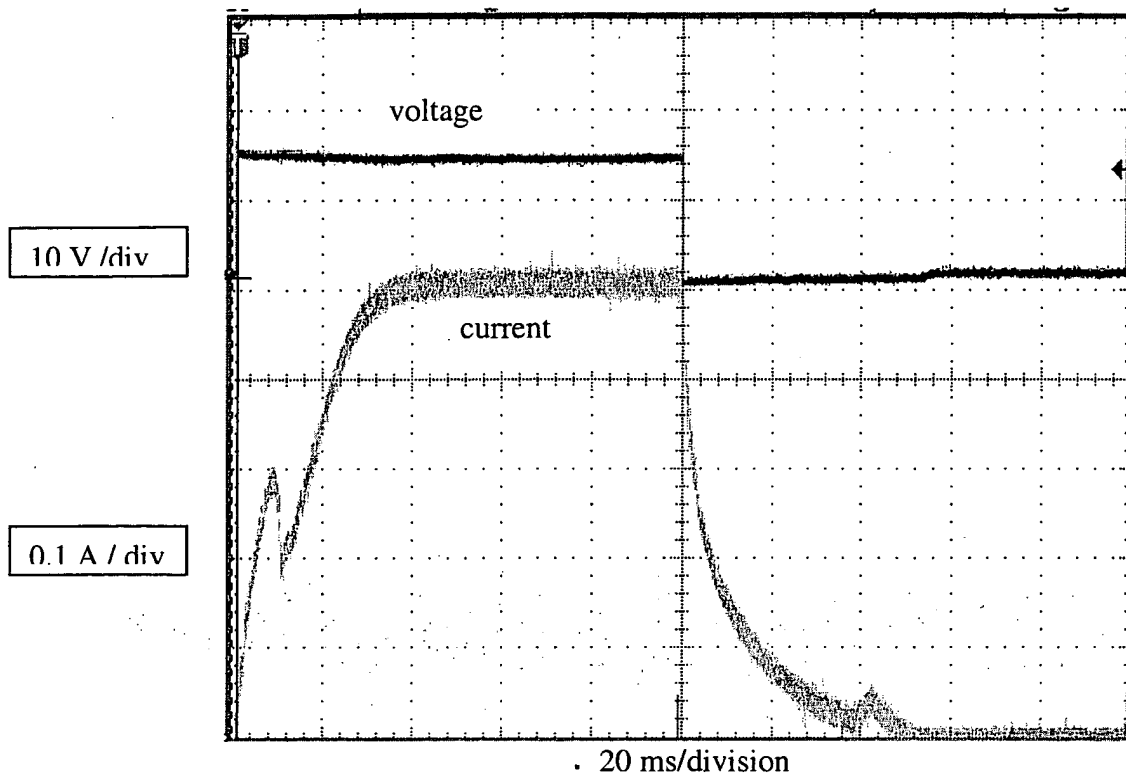
**Figure 14G**

**Self propelled sprayer, full throttle, 8008 nozzle  
clogged to 47% flow, 10 Hz, 300 kPa off periods**

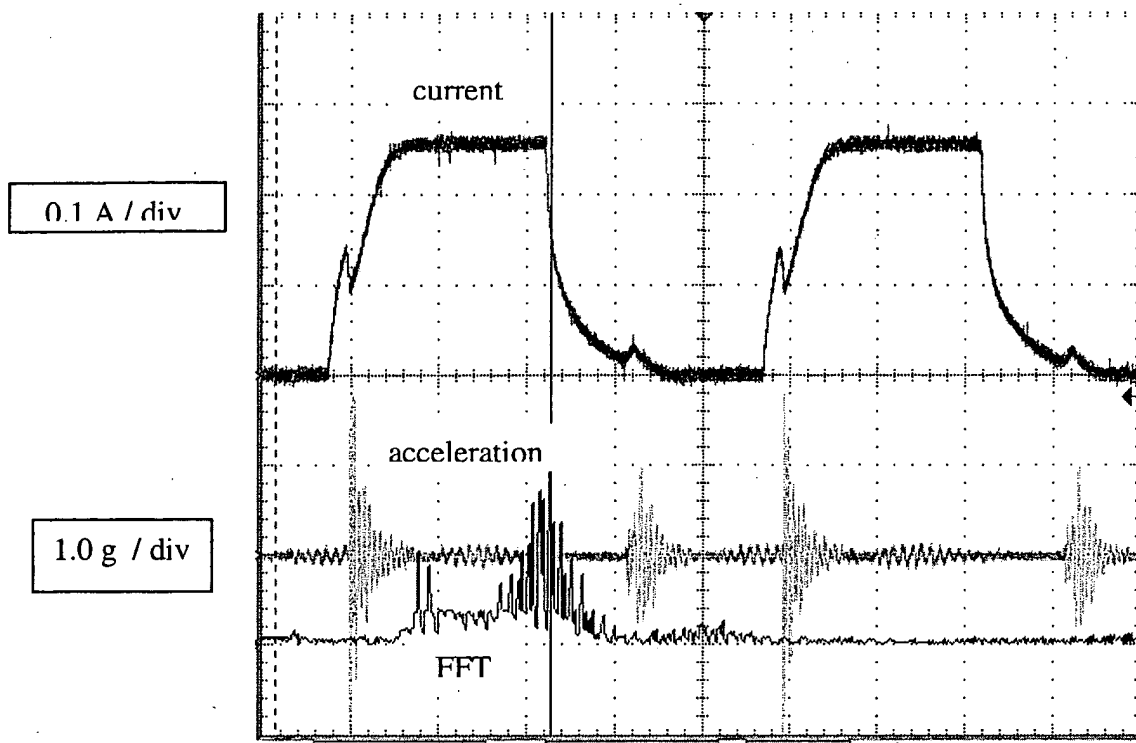


**Frequency (Hz)**

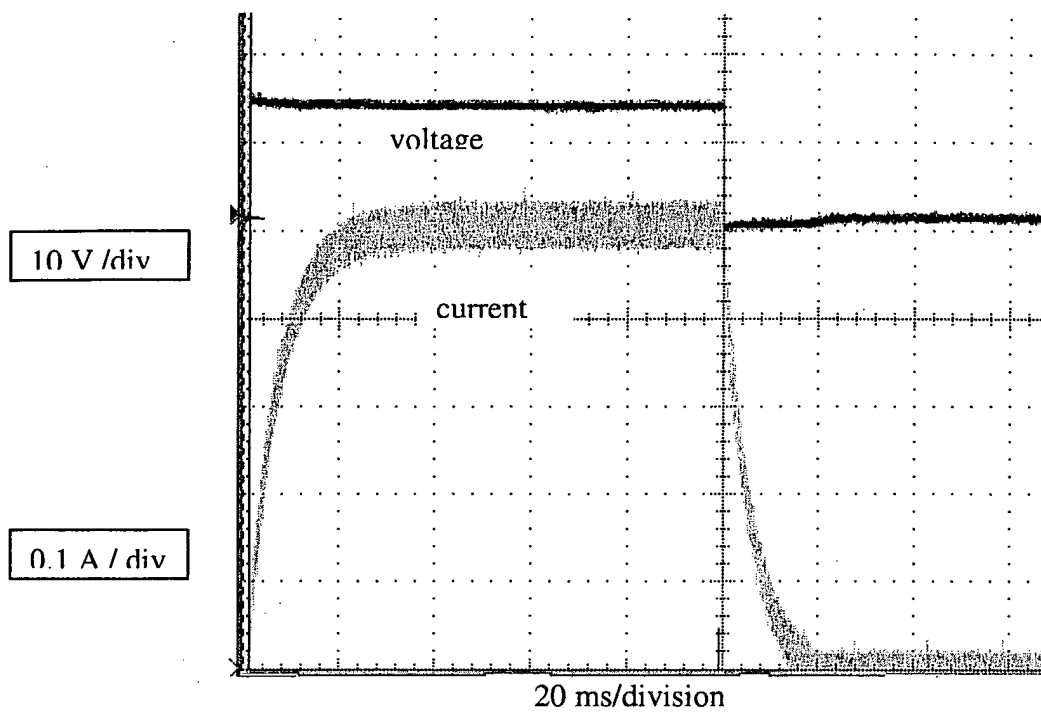
**Figure 14H**



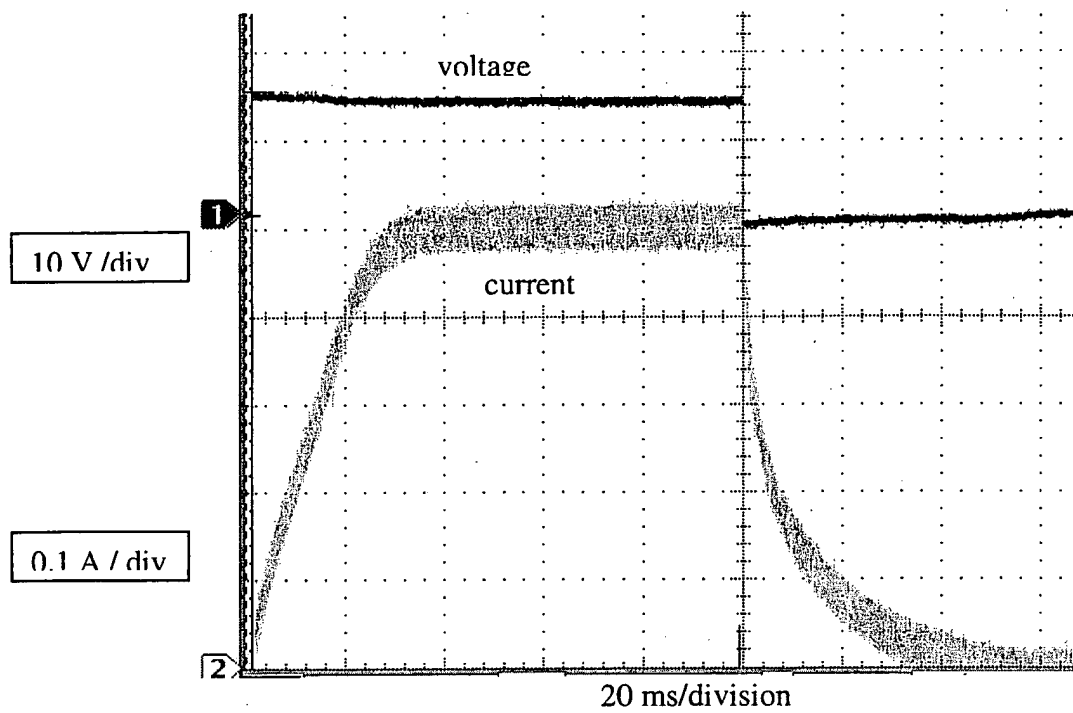
**Figure 15A**



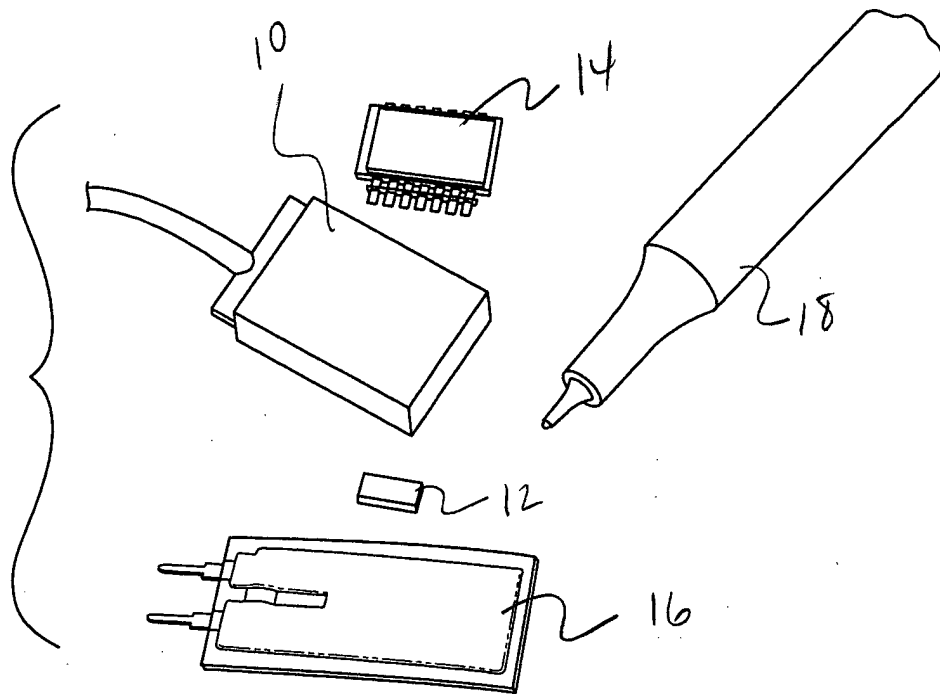
**Figure 15B**



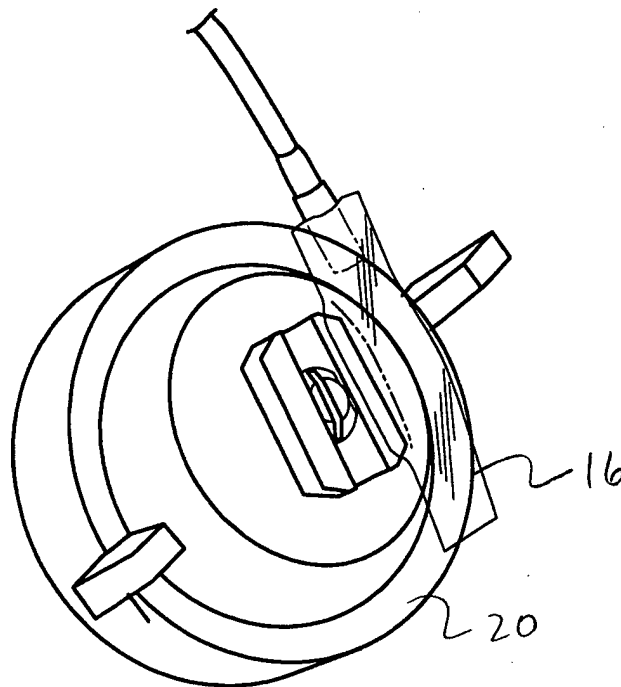
**Figure 16A**



**Figure 16B**

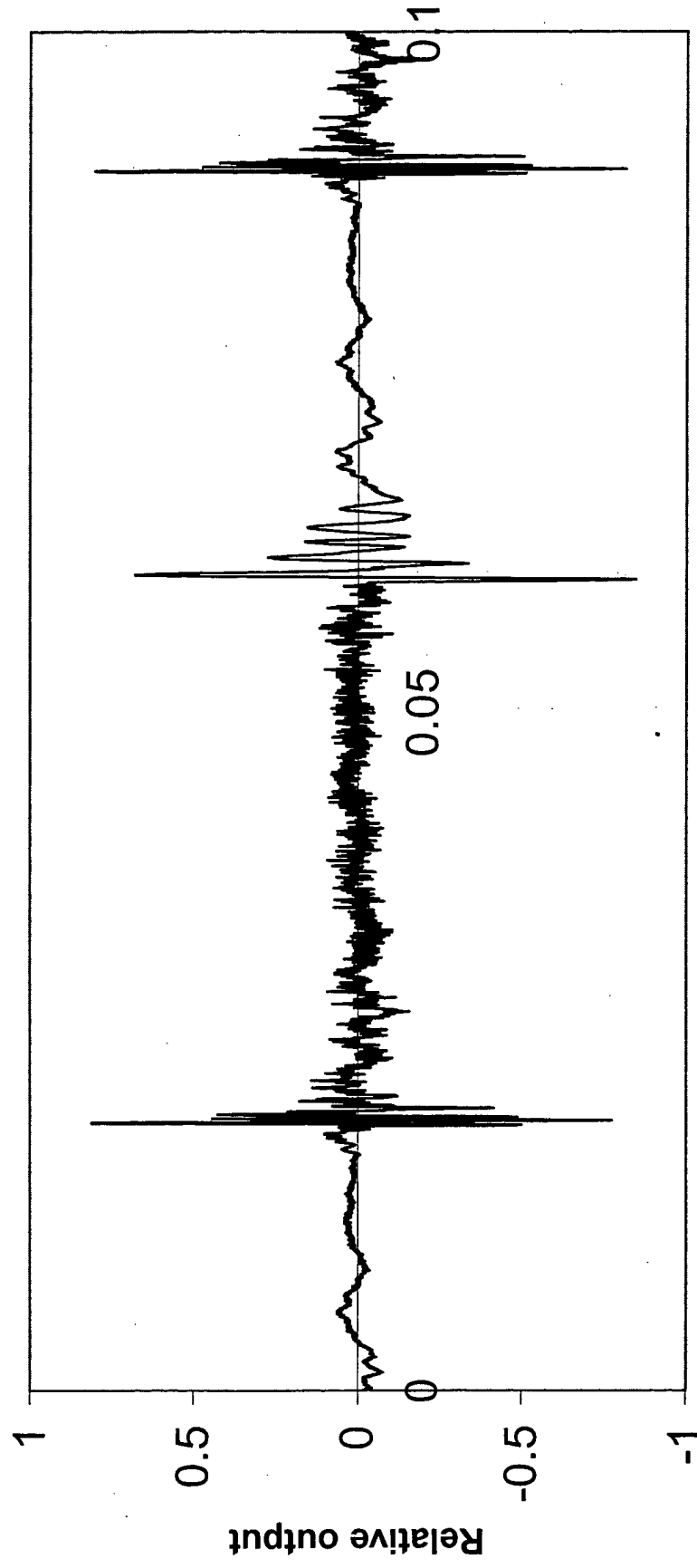


**FIG. 17A**



**FIG. 17B**

# Accelerometer and piezo film output for 15 Hz 60% dc



Time (s)

— Accelerometer

Figure 18A



# Accelerometer and piezo film output for 15 Hz 60% dc

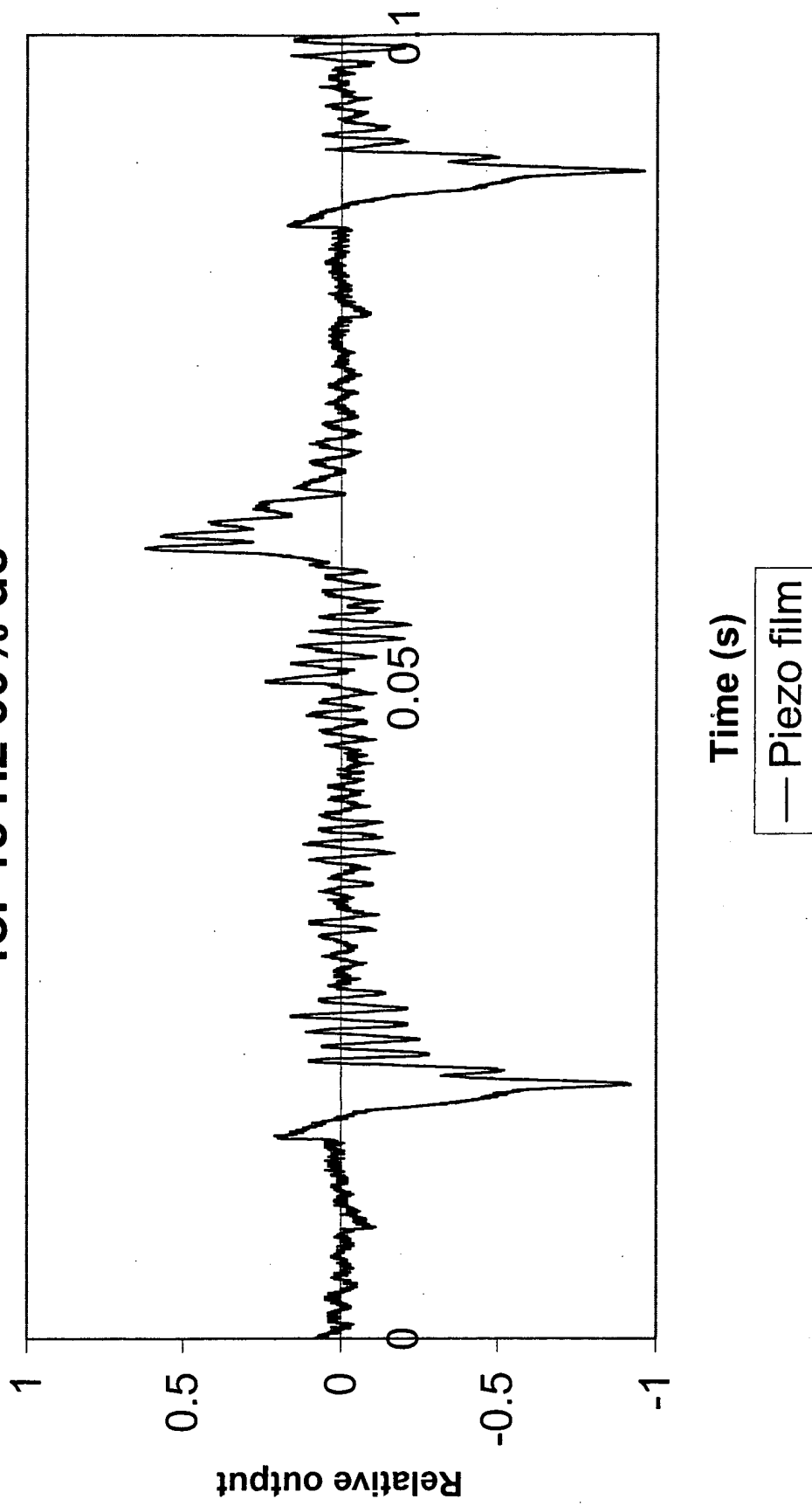


Figure 18B